



# **NAVAL POSTGRADUATE SCHOOL**

**MONTEREY, CALIFORNIA**

## **THESIS**

**COMMUNITY EXPECTATIONS: MATCHING  
GOVERNMENT CAPABILITIES TO THE  
EXPECTATIONS OF THE PUBLIC**

by

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September 2007

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**COMMUNITY EXPECTATIONS:  
MATCHING GOVERNMENT CAPABILITIES TO THE EXPECTATIONS OF  
THE PUBLIC**

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## **ABSTRACT**

Major events potentially affect all types of essential services in both government and private sectors. These are services that residents expect to be delivered, required by other services to function, and are critical to the life safety of residents. If those services collapse, there will be a grave threat to life and limb. Failure to properly ensure continuity of essential governmental and private services in the wake of a natural disaster or terrorist attack could result in societal chaos.

A community expects the response and outcome of any event to be the same, failing to realize the interdependencies required for continuation of necessary services. Planning in isolation only protects single aspects. Contributing factors to interdependency effects are stove-pipe planning and ineffective information sharing. A stove-pipe or vertical sector-based system creates an environment of isolation within a community rather than a cohesive interacting system.

With the increasing potential for a major event to occur, government, private business and the general public have not identified and shared their expectations of essential services as the precursor to an effective continuity program. Public – private collaboration allows the expectations to be discussed and addressed as a community rather than an independent discipline issue.

As public and private expectations are identified, two relevant issues are required to address the capabilities required to deliver the essential services. They are horizontal planning and resilience. Regional or local governmental structures provide the platform for horizontal planning and cooperation for emergency preparedness that is essential to civil protection. A community based system is the mechanism for improving coordination and communication to and from the government.

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

<b>ANSI</b>	American National Standards Institute
<b>CI/KR</b>	Critical Infrastructure/Key Resource
<b>COOP</b>	Continuity of Operations
<b>CRS</b>	Congressional Research Service
<b>DHS</b>	Department of Homeland Security
<b>EOP</b>	Emergency Operations Plan
<b>FEMA</b>	Federal Emergency Management Agency
<b>GAO</b>	Government Accounting Office
<b>HHS</b>	Health and Human Services
<b>HSPD</b>	Homeland Security Presidential Directive
<b>MIPT</b>	National Memorial Institute for the Prevention of Terrorism
<b>NFPA</b>	National Fire Prevention Association
<b>NIPP</b>	National Infrastructure Protection Plan
<b>NRP</b>	National Response Plan
<b>PDD</b>	Presidential Decision Directive
<b>TCL</b>	Target Capabilities List
<b>UASI</b>	Urban Area Security Initiative

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The issues that our communities face must be addressed. Proactive planning that includes resilience must become everyday actions in our lives. Without the support of my County Administrator, Mr. Shaun Groden and the County Board of Commissioners, there would not have been enough time to accomplish this project. I sincerely appreciate the support that my office personnel have provided, often going above and beyond to keep our county the great place it is to live.

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## I. INTRODUCTION

*We cannot prepare against every kind of misfortune that might befall us.*<sup>1</sup>

### A. PROBLEM STATEMENT

Major events potentially affect all types of essential services in both government and private sectors. These are services that residents expect to be delivered are required by other services to function, and are critical to the life safety of residents. If these services collapse, the result would be a grave threat to life and limb. Failure to properly ensure the continuity of essential governmental and private sector services in the wake of a natural disaster or terrorist attack could result in societal chaos.

During the response and recovery periods of a crisis, the public relies on the government to provide essential services. Federal, state and local governments maintain plans, identifying the roles and responsibilities of those disciplines and agencies that provide those services. However, these plans often do not address the private sector roles and responsibilities that address the majority of the critical infrastructure in the nation.

As demonstrated in the past two years, the lack of any continuity of essential services forms the Achilles Heel of emergency response and recovery. In the immediate and long-term aftermath of Hurricane Katrina, Hurricane Rita, and ice and snow storms in the Midwest, the inability to maintain or quickly recover essential services has cost lives, ruined economic enterprise, and altered the social and cultural foundations of communities across the nation. In particular, “the Federal Emergency Management Agency’s (FEMA) response to Hurricane Katrina gave convincing evidence that our systems have not met desired community standards.”<sup>2</sup> The inability to provide evacuation transportation and subsequently adequate food and shelter to those stranded residents, led

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<sup>1</sup> Fred C. Ikle,” An Argument for Homeland Defense,” *The Washington Quarterly* 21 no. 2 (1998), 8-10. Retrieved July 24, 2007, from Research Library database (Document ID: 32444068).

<sup>2</sup> Mark Alavosius, Ph.D., “Behavior Analysis and Domestic Preparedness,” *The Current Repertoire*, (Spring 2006): 3.

to chaos and loss of life. People around the world viewed the anguish and death, as trapped people waited days for government assistance.

Millions of people were left without power on August 14, 2003, when the largest blackout in the history of North America occurred.<sup>3</sup> The blackout affected several major metropolitan areas — including Detroit, Cleveland, Columbus, New York, Toronto, and Ottawa. The Michigan Public Service Commission Report on the August 14 Blackout report stated that “during and following the power outage a number of issues arose that required response. These issues clearly demonstrated the critical interdependencies that exist to support our citizens and businesses”.<sup>4</sup>

A contributing factor to interdependency effects is the federal-oriented stove-pipe planning and information sharing approach. The continued sector-based system creates an environment of isolation within a community, rather than a cohesive interacting system. The stove-pipe approach is solidly entrenched down to the local level and fails to allow a cohesive interacting system that would lead to the further development of community continuity planning. The nation’s defensive systems were categorized as “stovepipes” by the 9/11 Commission, noting that synthesis and analysis of data streams within agencies were absent, and patterns that revealed crises were either unseen or not recognized for their significance.<sup>5</sup>

Men build too many walls and not enough bridges.

— Sir Issac Newton

With the potential for a major event to occur increasing, government, private business and the general public have not identified and shared their expectations of essential services as the precursor to an effective continuity program. For some, the implementation of the Federal Emergency Management Agency (FEMA) planning guidance or identification of essential services within an Emergency Operations Plan

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<sup>3</sup> U.S.-Canada Power System Outage Task Force, *Final Report of the August 14th Blackout in the United States and Canada: Causes and Recommendations*, (April 2004): 1.

<sup>4</sup> Michigan Public Safety Commission. *Report on August 14<sup>th</sup> Blackout*. (November 2003): 70.

<sup>5</sup> Alavosius, “Behavior Analysis and Domestic Preparedness,” 3.

would seem sufficient. The effect of the long-term failures — at every level of government — to plan and prepare adequately to provide basic essential services for a major hurricane in the Gulf was evident in the inadequate preparations before Katrina's landfall and then again in the initial response to the storm.<sup>6</sup>

FEMA continuity planning focuses on the essential services that local and state government would need to provide, and fails to address those essential services provided by the private sector necessary to maintain the government-provided services. Little guidance is available to state and local governments regarding mobilization of private sector resources.<sup>7</sup> FEMA and other agencies have not undertaken a planning process that takes into account the expectations of residents, with respect to public and private essential services during an emergency.

Key services are owned by the private sector and are often utilized by numerous communities and even states. In communities located along international borders, other services are provided from outside the borders of the United States — often funneled through various ports. With vulnerable infrastructure, high risk, and just-in-time delivery considerations, the urgent need to ensure the continuity of essential services rises to a top homeland security priority. It is important that government, business and our residents identify essential services within their community, both those passing through their communities in support of other areas of the nation and those staying within their jurisdictions.

As required by law, all jurisdictions with a recognized emergency management program must maintain emergency operation plans for the perceived threats to their community. The plans operate on a number of assumptions pertaining to the specific community; they have not significantly been altered since 9/11, as indicated by the current FEMA, State and Local Guide 101, Guide for All Hazard Emergency Operations

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<sup>6</sup> *Hurricane Katrina: A Nation Still Unprepared*: Report of the Senate Committee on Homeland Security and Governmental Affairs (GPO – Washington, DC: May 2006): 8.

<sup>7</sup> *Lessons Learned from Hurricane Katrina and the Role for Standards and Conformity Assessment Programs* (New York: ANSI Homeland Security Standards Panel, March 2007): 10.

Planning dated September 1996.<sup>8</sup> No standardized continuity planning requirements are mandated at the state or local levels in the United States.

The community expects the response and outcome of any event to be the same. What fails to be realized is that services depend on one another for continuation. Planning in isolation only protects single aspects. During Hurricane Katrina, emergency operations plans could not be implemented as flooding disrupted communications, transportation, feeding, and sheltering, among other things.<sup>9</sup> The disruption of these services directly affected the responders' ability to effectively provide for the life safety of the community.<sup>10</sup> Calls for assistance went unanswered, creating confusion, which then fueled public chaos.

## **B. RESEARCH QUESTION**

The assumption of this thesis research is that local emergency operations plans address the four elements of emergency management: mitigation, preparedness, response and recovery, as it applies to the requirements of the specific community. Although mutual aid, along with state and federal assistance, are in place, a major event will isolate a community without additional resources for an extended period of time. Therefore, communities must maximize local resources through planning and resilience efforts for self-sustainment.

Based on the local government's mandate to provide for the life safety of their residents, this thesis research will seek to:

1. Determine the essential services that the public expects during a large-scale event and also whether the expectations are being addressed in public and private continuity planning.

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<sup>8</sup> Federal Emergency Management Agency, State and Local Guide 101; Guide for All-Hazard Emergency Operations Planning, (Washington, D.C.: September 1996).

<sup>9</sup> *The Federal Response to Hurricane Katrina, Lessons Learned* (Washington, DC: The White House, 2006): 1.

<sup>10</sup> Ibid.

2. Identify the necessary information and actions required to close the gaps in public–private expectations and delivery of essential services.

Overall, the primary question this thesis considers: Is the current continuity guidance for governments adequate to achieve community continuity of essential services based on the true public and private expectations?

## **C. METHODOLOGY**

A close review of the existing continuity planning process at various levels of government and the private sector will occur to identify the existing continuity planning. Furthermore, a survey will be conducted to establish the level of confidence and the expectations of essential services of residents within a community. These identifiable factors will be used as part of the analysis and recommendations for more effective community continuity planning approaches.

## **D. SIGNIFICANCE OF RESEARCH**

This thesis will strengthen the existing continuity planning guidance for local communities. The proposed strategies presented in this thesis will provide a mechanism to create a common continuity plan between the public and private partners for use by local governments. The existing literature focuses on public and private as two separate entities. This thesis is intended to initiate critical thinking necessary for continuity planning to be a collaborative partnership between the public and private sectors.

Chapter II examines the literature on existing governmental guidance, case studies, and congressional reports, along with the private sector efforts.

Chapter III examines citizen’s expectations of essential services in a major event. This chapter contains the results of the St. Clair County survey.

Chapter IV presents the ability of government to meet those expectations.

Chapter V identifies other challenges in meeting expectations.

Chapter VI addresses how the identified gaps could be narrowed through several recommendations.

Chapter VII concludes with some future thoughts.

This thesis may provide governmental and private-sector leaders a compelling argument to implement horizontal planning that addresses community expectations based on risk and capabilities. It will further identify the need for proactive preparedness efforts to overcome the lack of capabilities required to meet community expectations. This collaboration and planning effort will assist in developing trust and ownership within the community.



## II. BACKGROUND

### A. EXECUTIVE BRANCH DOCUMENTS

Among the limited types of literature available at the governmental level, there are few documents available in the context of continuity of governmental operations plans. There are governmental documents that address the need for continuity planning but do not require the implementation of it. *Presidential Decision Directive 67* (PDD 67)<sup>11</sup> was issued October 21, 1998, and required federal agencies to develop planning that would ensure the delivery of essential services. The *Federal Preparedness Circular 65*, (PDD-67)<sup>12</sup> established responsibility for Continuity of Operations (COOP) planning within the federal government as the primary responsibility of the Federal Emergency Management Agency (FEMA). Overall, FEMA was responsible for establishing common standards that could be utilized in the development of COOP plans. The emphasis for planning was on federal governmental agencies rather than state and local governments and the private sector.

The FEMA document, *State and Local Guide (SLG) 101: Guide for All-Hazard Emergency Operations Planning*, presents the preparedness, response, and short-term recovery planning elements that warrant inclusion in state and local Emergency Operations Plans (EOP).<sup>13</sup> The limited focus of continuity in the guide is centered on the continuation of government decision making. Historically, preparedness has been conceived as incident-centric and response-oriented, rather than proactively implementing lessons-learned strategies prior to the occurrence of the next incident.

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<sup>11</sup> *Presidential Decision Directive 67* (Washington, DC: GPO, October 1998).

<sup>12</sup> Federal Executive Branch Continuity Of Operations (COOP) *Federal Preparedness Circular* (Washington, D.C.: Federal Emergency Management Agency, July 1999).

<sup>13</sup> Federal Emergency Management Agency, *State and Local Guide 101, Guide for All-Hazard Emergency Operations Planning*, i.

Since the events of September 11, 2001, the government has developed the National Strategy for Homeland Security.<sup>14</sup> This includes the development of numerous publications such as the *National Response Plan*.<sup>15</sup> The National Response Plan is built on the premise that incidents are generally handled at the lowest jurisdictional level possible.<sup>16</sup>

The NRP further defines such a major incident as “Any natural or manmade incident, including terrorism, that results in extraordinary levels of mass casualties, damage, or disruption, severely affecting the population, infrastructure, environment, economy, national moral, and/or government functions.”<sup>17</sup> A major event could result in sustained national impacts over a prolonged period of time; almost immediately exceeds resources normally available to state, local, tribal, and private sector authorities in the impacted areas; and significantly interrupts governmental operations and emergency services to an extent that national security could be threatened.<sup>18</sup>

Knowing the residents expectations of both public and private essential services, provides a baseline for understanding the sharing of responsibilities during an emergency. Without this, the public expectation of government is to provide *all* the necessary essential services to maintain life safety.

## **B. CONGRESSIONAL REPORTS**

In a 2006 statement before the Subcommittee on Homeland Security on Appropriations, Under Secretary for Preparedness George W. Foresman discussed the importance of the nation’s preparedness. Referencing state and local coordination for preparedness, he stated, “key to this effort is the understanding that national preparedness actions must complement and not conflict with state and local activities, and these actions

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<sup>14</sup> Department of Homeland Security, *National Strategy for Homeland Security* (Washington, DC: GPO, July 2002).

<sup>15</sup> Department of Homeland Security, *National Response Plan* (Washington, DC: GPO, 2004).

<sup>16</sup> *Ibid.*, 15.

<sup>17</sup> *Ibid.*, 63.

<sup>18</sup> Department of Homeland Security, Quick Reference Guide for the National Response Plan, Version 4.0 (GPO Washington, DC: May 22, 2006): 22.

require sustained commitment among Congress, federal agencies, local and state governments, the private sector, and the American people.”<sup>19</sup>

In testimony before the United States Senate Homeland Security and Government Affairs Committee, Arnold Howitt, Ph.D., and Herman Leonard, Ph.D., of Harvard University sent a clear message that Hurricane Katrina was “failures of systems and of failures to construct systems in advance that would have permitted and helped to produce better performances and outcomes.”<sup>20</sup> Even with existing planning guidance, contention is that government has known for years that there were systems of preparation and response that would not address continuity of operations in a major event.

In a November 8, 2004, Congressional Research Service Report for Congress provided the background and issues of the Continuity of Operations (COOP) in the Executive Branch. Information reported by the General Accountability Office (GAO), found during an audit of several federal agency COOP plans, elements defined by Federal Preparedness Circular 65 (FPC-65) were lacking. Moreover, GAO found FEMA:

1) did not provide specific criteria through FPC-65 for identifying essential functions, or to address interdependencies between agencies;

2) did not review the essential functions identified in its assessments of COOP planning, or follow up with agencies to determine whether they addressed previously identified weaknesses;

3) did not conduct tests or exercises that could confirm that the identified essential functions were correct.<sup>21</sup>

Based on the facts, the responsible federal agency failed to provide the necessary oversight; other federal agencies are likely to continue planning on ill defined

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<sup>19</sup> Statement of George W. Foresman, Under Secretary for Preparedness to the Subcommittee on Homeland Security Committee on Appropriations, (Washington, DC: September 7, 2006).

<sup>20</sup> Testimony of Herman B. Leonard and Arnold M. Howitt to U.S. Senate Committee on Homeland Security and Governmental Affairs, “Katrina as Prelude: Preparing for and Responding to Katrina-Class Disturbances in the United States,” *Journal of Homeland Security and Emergency Management* 3, no. 2, Article 5, 2006.

<sup>21</sup> Congressional Research Service, Report for Congress, *Continuity of Operations (COOP) in the Executive Branch: Background and Issues for Congress* (Washington, DC: CRS, 2004): 13.

assumptions.<sup>22</sup> In response to the November 8, 2004, CRS Report for Congress, the president identified effective planning as a national security priority and directed the Department of Homeland Security to conduct a nationwide plan review. One of the four core questions addressed the consistency with the existing FEMA planning guidance and voluntary standards such as National Fire Protection Association 1600.<sup>23</sup> The majority of the current emergency operations plans and planning processes cannot be characterized as fully adequate, feasible, or acceptable to manage major events as defined in the *National Response Plan*.<sup>24</sup> Furthermore, basic plans do not adequately address continuity of government.

### C. ACADEMIC STUDIES

Although Department of Homeland Security officials stresses the importance of private-public partnerships, the primary conclusion of the Council on Foreign Relations working group is that this is not being accomplished. The report, CSR No. 13, “Neglected Defense,” recommends stronger leadership and working relationships with the private sector as a means to make the U.S. more secure.<sup>25</sup> Stephen Flynn, a Senior Fellow for National Security Studies at the Council of Foreign Relations and author of *America the Vulnerable* has indicated that the government is still unprepared. In the report of an Independent Task Force, the burden of preparing and responding to major terrorist attacks lies primarily outside the federal government at the local and state levels, and with the private-sector companies that own and operate much of the nation’s critical infrastructure.<sup>26</sup>

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<sup>22</sup> Congressional Research Service, 12.

<sup>23</sup> National Fire Protection Association, *Standard on Disaster/Emergency Management and Business Continuity* 2004.

<sup>24</sup> Department of Homeland Security, *The National Plan Review, Phase 2* (Washington, DC: DHS, 2006): ix.

<sup>25</sup> Council on Foreign Relations, CSR No. 13 “Neglected Defense” (Washington, DC: Council on Foreign Relations, 2006): 12.

<sup>26</sup> Council of Foreign Relations, *America-Still Unprepared, Still in Danger* (New York: Council on Foreign Relations, 2002): 38.

Another important part of literature review involves case studies. Recent major events such as September 11, 2001, and Hurricane Katrina provide a significant amount of review. The Executive Session on Domestic Preparedness at John F. Kennedy School of Government has indicated that as a result of the events of September 11, 2001, domestic preparedness relies on cross-jurisdictional and cross-professional cooperation and coordination between agencies, non-governmental private and not-for-profit organizations, and levels of government that are not accustomed to working together.<sup>27</sup> The report recommends government develop these important partnerships. Until this culture of public-private partnership for preparedness is further developed, government and business will continue to plan in separate but parallel paths. To many, *preparedness* is simply a name on an organizational chart or a step in the cycle of emergency management.<sup>28</sup>

Another leading authority is George Mason University, publisher of numerous studies regarding resiliency and collaboration in the public-private sectors. Paula Scalingi, among other Subject Matter experts, has contributed to these studies, in addition to her own publications.

#### **D. CASE STUDIES**

As there have been limited major events occurring in the United States, it is important to maximize lessons learned from these events. Although most communities will never face a major event, one cannot predict when or where the next one will occur.

To demonstrate the need for an effective continuity plan, the lessons learned from Hurricane Katrina indicate the lack of preparedness at all levels of government for major events. “They reflect the lack of a shared vision on how prepared everyone needs to be — individually and collectively — and a shared system for a comprehensive national approach to preparedness to focus our efforts and to provide the standard tools and

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<sup>27</sup> Memorandum to Secretary Ridge, Intergovernmental Dimensions on Domestic Preparedness, Executive Session on Domestic Preparedness (Cambridge, MA: Harvard University, 2001): 27.

<sup>28</sup> Foresman statement.

processes we need to get us there.”<sup>29</sup> Katrina was not isolated to one town or city, or even one state. Individual local and state plans, as well as relatively new plans created by the federal government since the terrorist attacks on September 11, 2001, failed to adequately account for widespread or simultaneous catastrophes.<sup>30</sup> After Action reports indicated problems with the quality of planning at various levels of government.

The private sector has been involved with business continuity planning for many years. The *Disaster Recovery Journal* has been in place for nearly twenty years to support business continuity planning. In view of the Journal’s numerous lessons learned from various disasters, it is clear that the private sector has made significant progress in continuity planning, including secondary relocation centers for operations. Business Recovery Centers in the 1992 Chicago flooding were immediately in use as emergency centers for key operations.<sup>31</sup> Examining the prepared businesses after the sheer magnitude of Hurricane Andrew, the recovery lessons learned did not reveal any surprises. Those that were unprepared experienced lengthier and more complex recovery issues.

The 2003 Blackout in the Northeast provided numerous public and private after action reports that identified the disciplines that were directly affected and then by the failure of interdependencies at all levels. Most individual plans were ineffective due to the failure to address the continuity of those interdependencies which often were private-sector oriented.

The 9/11 Commission realized the importance of public-private sector partnerships and asked the American National Standards Institute (ANSI) to develop a National Standard for Preparedness that could be utilized by the private sector. One of the primary ANSI recommendation was “entities in both the public and private sectors would be well served in their implementation of post-Hurricane Katrina recommendations by complying with NFPA 1600 and using it as a guideline for their disaster/emergency

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<sup>29</sup> Foresman statement.

<sup>30</sup> The White House, *The Federal Response to Hurricane Katrina, Lessons Learned*, 1.

<sup>31</sup> Richard I. Arnold, “Special Report, Underground Flood Hits Chicago’s Loop, Shutting down Businesses for Weeks,” *Disaster Recovery Journal* (1992): 1-4.

management and business continuity planning.”<sup>32</sup> One recommendation of the 9/11 Commission report was the endorsement of this standard for private preparedness.<sup>33</sup> After the 9/11 Report, the Intelligence Reform and Terrorism Prevention Act of 2004 was signed into law on December 18, 2004.<sup>34</sup> In Sec. 7305, “Private Sector Preparedness,” the Act recognized NFPA 1600 as the standard the private sector should follow, although it did not mandate it as a National Standard.<sup>35</sup>

Although the Executive Branch has established continuity planning at the federal level, it has done little toward the adoption at the state and local levels. The continuity that is in place is focused mainly on the governmental operations and little on the private sector. Planning in place does not address the interdependencies of a community, let alone the identification of citizen’s expectations of essential services.

As a result of backlash from recent events, lessons learned and congressional reports are identifying the need for continuity of essential services in the planning process. Without movement from the Department of Homeland Security to change the planning process, the continuity issues are not at the forefront. This is occurring despite the mounting evidence of the citizen’s expectations from government.

Non-government studies, along with change in the private sector, now realize the complexity of interdependencies and delivery of essential services. The private sector understands the expectations of their customers and is implementing the necessary change to deliver that service. Profit is the motivating factor for this.

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<sup>32</sup> ANSI Homeland Security Standards Panel, *Lessons Learned from Hurricane Katrina and the Role for Standards and Conformity Assessment Programs*. 12.

<sup>33</sup> National Commission on Terrorist Attacks upon the United States, *The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks upon the United States* (New York: Norton & Co, 2004): 398.

<sup>34</sup> United States PUBLIC LAW 108–458—DEC. 17, 2004.

<sup>35</sup> *Ibid.*

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### III. EXPECTATIONS OF CITIZENS FOR ESSENTIAL SERVICES

As we will never be able to protect everything, everywhere, all the time, from every adversary and every modality of attack, now is clearly the time for clearheaded prioritization of policies and resources. Unless we examine this issue in its totality, we may simply be displacing risk from one infrastructure to another.<sup>36</sup>

#### A. WHAT IS MEANT BY EXPECTATIONS?

Understanding what expectations the public has of essential service prior to an event is required to evaluate existing capabilities of meeting those expectations. This chapter will identify what expectations are and how they affect the public. Although expectations may appear clear, the complexity of interdependencies and the current planning mind-set affects those expectations in a large-scale event. Utilizing a public confidence and expectations survey, analysis of the results will address the public's perception of expectations and provide a level for the government to compare the existing capabilities.

The United States has long operated on the general premise that governments exist to do those things that individuals alone or in free and voluntary association (*e.g.*, families and charities), are not best positioned to do for themselves, such as ensuring protected communities through public safety and law enforcement.<sup>37</sup> This has resulted in citizens having numerous expectations of government. An expectation can be defined as “the act or state of looking forward or anticipating.”<sup>38</sup> In today's society, many people live for today and do not focus on future events that may or may not occur.

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<sup>36</sup> Testimony of Frank J. Cilluffo, Co-Chairman, Cyber Threats Task Force, Homeland Defense Project, Center for Strategic and International Studies. Before the Joint Economic Committee of the U.S. Congress, June 12, 2001. [http://www.gwumc.edu/hspi/congress/june21\\_01.html](http://www.gwumc.edu/hspi/congress/june21_01.html) (accessed February 11, 2007).

<sup>37</sup> The White House, *The Federal Response to Hurricane Katrina, Lessons Learned*, 11.

<sup>38</sup> Dictionary.com. *Dictionary.com Unabridged (v 1.1)*. Random House, Inc. <http://dictionary.reference.com/browse/expectation> (accessed: July 12, 2007).

Although there are expectations, it is important to measure the confidence of those expectations being delivered. Failure or anticipated failure creates confidence issues that may create a need for alternate planning. These are issues that confront the public in both emergency and non-emergency times.

## **B. DAILY EXPECTATIONS**

Everyone is constantly, directly or indirectly, affected by expectations, whether their own or from someone else. Advertisements are created in expectation that the viewer will react in a certain way. Employers, school systems, healthcare workers, for example, all have expectations of their customers, and, as a customer, there must be an expectation that leads to utilization of the services. Expectations are so frequent and common that few people give thought to them until a critical issue arises.

On a daily basis, communities provide essential services that are accepted and expected by the residents of the community. Emergency response can be measured by the minutes required to arrive at a single event such as a house fire, traffic accident or medical emergency. Road maintenance occurs regularly, allowing residents to work, shop and enjoy recreation.

Critical infrastructures provide for a quality life and an expected way of life. Every day, without a second thought, our citizens flip a switch that provides light in their homes, feel the warmth of heat provided by gas and oil, eat food, and enjoy water provided to the residence or business. These services are provided by the private and public sectors with very little delay or interruption — until a major event disrupts these services and our expected way of life.

## **C. CONCEPT OF PROTECTION**

September 11, 2001, was a wakeup call for a very complacent society. For decades, the United States believed that the borders were protected and defended by a world class military. This allowed for the public expectation of a nation secure from acts of terror.

The 9/11 Commission Report provides significant insight and recommendations to secure our homeland. A strategic insight was clearly the philosophy that protection was no longer the basis for the security of our homeland. It was essential that the country change policy to move beyond protection-based planning that had been in place for decades

This policy of protection met the expectations of citizens and was acceptable when the adversary and their method of attack were known. The experience of successful means of unconventional attacks by unconventional sources has clearly demonstrated that protection is not enough. The terrorist attacks of September 11, 2001, demonstrated to the United States a reality that will confront our nation and those of the world for years to come. It has been said that the most fatal illusion is the settled point of view.<sup>39</sup> The United States can no longer rely on the protections of time and distance. Instead, non-conventional attacks will come with little or no notice by adversaries from within as well as outside the nation. These non-conventional attacks will challenge our current planning and delivery of essential services in our communities.

#### **D. DEPENDENCIES**

It is essential that local government understand the expectations of services that are provided to the public prior to a major event and the services they can adequately provide. These include public and private services that may not be operated or provided from within the community itself. This creates dependencies that cross many communities in which the service cannot be controlled or ensured locally, yet are often taken for granted by the public.

In describing the book, *The Edge of Disaster*, Anne-Marie Slaughter states that “our growing exposure to manmade and natural perils is largely rooted in our own

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<sup>39</sup> Remarks by Secretary Ridge to the Commonwealth Club of California, (Washington, DC: Release Date: July 23, 2003):1.

negligence as we take for granted the infrastructure handed down to us by earlier generations. Once the envy of the world, this infrastructure is now crumbling.”<sup>40</sup>

The blackout of 2003 is a primary example of infrastructure failure. Large portions of the Midwest and Northeast United States and Ontario, Canada, experienced an electric power outage affected an area with an estimated 50 million people and 61,800 megawatts (MW) of electric load.<sup>41</sup> Electrical demand is outpacing our ability to produce the power. Peak electrical demand is expected to rise by 19 percent by 2016, but new transmission capacity is expected to increase by less than 7 percent.<sup>42</sup> The necessity of electricity to deliver essential services must be understood and a priority in the planning process.

During this blackout, Detroit Michigan had only one gasoline distribution terminal with a backup power supply operating.<sup>43</sup> The terminal would not send its own tanker trucks out, however, because of unsafe road conditions due to the lack of operating traffic signals.<sup>44</sup> Some gas stations with available gasoline were forced to shut down because they were unable to handle consumer behavior and had concerns for employee safety when others ran out of gasoline. The lack of gasoline within numerous communities forced essential facilities with generators to cease operations. Essential services affected by the gasoline shortage included feeding, transportation, water, and communications, among numerous other disciplines, causing significant disruption of the normal lifestyle that people expect.

During hurricane Katrina, the breakdown of essential services left people stranded without assistance and a government that also lacked the necessary essential resources.<sup>45</sup>

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<sup>40</sup> Anne Marie Slaughter, dean, Woodrow Wilson School of Public and International Affairs, Princeton University, *Edge of Disaster*, New York, 2007. (jacket cover)..

<sup>41</sup> U.S.-Canada Power System Outage Task Force, Final Report of the August 14th Blackout in the United States and Canada: Causes and Recommendations, 1.

<sup>42</sup> Stephen Flynn, *The Edge of Disaster: Rebuilding a Resilient Nation*. New York, NY: Random Books, 2007, 171.

<sup>43</sup> Michigan Public Safety Commission. *Report on August 14<sup>th</sup> Blackout*, 82.

<sup>44</sup> Ibid.

<sup>45</sup> The White House, *The Federal Response to Hurricane Katrina, Lessons Learned*, 11.

The failure of a levee that was a protected critical infrastructure caused further devastation and escalated the failure of essential services from all levels of government. Although the hurricane contributed to the amount of water that caused the failure, studies conducted prior to the event indicated a high possibility of failure in that situation.

Hurricane Katrina was not isolated to one town, city, or even one state. Individual local and state plans, as well as relatively new plans created by the federal government since the terrorist attacks on September 11, 2001, failed to adequately account for widespread or simultaneous catastrophes.<sup>46</sup> There will be those who say that they have emergency operations plans in place to provide essential services to the community. Businesses may claim they have continuity plans in place for their facilities. However, the literature review found that these plans are specific to individual sectors and contain numerous assumptions regarding expected services. Not addressed are the assumptions that services will be available, without research into the planning process within those disciplines as to how those services will be provided. The reliance of essential services on our infrastructure is critical.

The Council for Excellence in Government conducted a survey that showed great concern from the public and first responders about terrorist attacks on critical infrastructure. Breaking critical infrastructure down into its parts, 73 percent of first responders and 49 percent of the public worry over an attack on power plants, and 66 percent of first responders and 44 percent of the public express the same degree of concern about water facilities.<sup>47</sup> Do these statistics justify focusing strictly on protecting these facilities? Government has recognized that critical infrastructure security planning and protection must be a public-private partnership but have not found a method of implementation. The National Strategy for Homeland Security established broad principles that should guide the allocation of funding and who should bear the financial burden for homeland security.<sup>48</sup> In creating that division of labor, the strategy concludes

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<sup>46</sup> *The Federal Response to Hurricane Katrina*, 11.

<sup>47</sup> The Center for Excellence in Government, *From the Home Front to the Front Lines: America Speaks Out About Homeland Security*, A study by the Council for Excellence in Government Prepared by Hart-Teeter, March 2004, 43.

<sup>48</sup> Flynn, *Edge of Disaster*, 138.

that the government should only address those activities that the market does not adequately provide, such as border security and national defense.<sup>49</sup> For other elements of homeland security, such as safeguarding critical infrastructure, the strategy declares that sufficient incentives exist in the private market to supply protection, and the private sector should be relied upon for that.<sup>50</sup>

The recent natural disasters have clearly demonstrated that events of magnitude are not isolated to the geographic boundaries of a political jurisdiction or the inclusive business content of one of the seventeen existing specific critical infrastructure planning sectors. Blind to jurisdictional barriers, the public will continue to demand more public safety services at a higher quality and lower overall cost.<sup>51</sup>

Understanding that if protection of these key critical infrastructures fails, the services provided will not be available, which will create a cascading effect of interdependencies in other sectors. This failure then limits the capabilities to deliver the essential services that the public expects, causing loss of confidence in government.

#### **E. PUBLIC CONFIDENCE/EXPECTATIONS SURVEY DESIGN AND TESTING**

Local communities must understand what their residents deem as essential services and not focus solely on those provided by their sector or discipline. To better understand this, a public confidence survey was conducted within St. Clair County, Michigan; it included questions regarding expectations of essential services. Survey respondents were randomly selected from the county jury pool. A target sample of six hundred residents, representing the population of one hundred and thirty-five thousand residing in the emergency management program area, was taken. The percent of county population was identified for each community and utilized to ensure an equal sampling per jurisdiction.

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<sup>49</sup> Flynn, *Edge of Disaster*, 138.

<sup>50</sup> Ibid.

<sup>51</sup> The Council of State Governments, Regional Solutions for Enhanced Public Safety, *Public Safety Brief*, December 2005, 6.

St. Clair County, Michigan, is unique for its combination of high concentration of critical infrastructure, relatively low tax base, and population. Sitting adjacent Ontario, Canada's Chemical Valley, St. Clair County is the nation's primary entry point for carriers of hazardous, radioactive, and flammable materials between the United States and Canada. The county is the second-ranked entry point in the United States for hazardous materials imports, the second busiest northern border crossing in America and third-ranked commercial point of entry for the North American Continent crossing for forty-eight hundred commercial trucks and twelve thousand passenger vehicles daily, and 5.8 million commercial and passenger vehicles annually. Thus, St. Clair County is the nation's principal gateway for international trade with Canada, with 27 percent of total North American land-based international trade. Waterway traffic on the St. Clair River is 7,432 vessels carrying over 86 million tons of product annually. Under the St. Clair River, on which those freighters pass, approximately thirty pipelines connect the U.S. and Canada. They carry a product value of greater than \$2.1 billion (2004) and range in diameter from six to forty-eight inches.

America's and Canada's economic and national security, and the welfare, opportunities and freedoms afforded its citizens, are all dependent upon a vast network of highly complex, automated, largely privately owned and operated and inextricably interdependent national and global critical infrastructure systems and services. These critical cyber and physical infrastructures produce and distribute energy, enable communications, control transportation, ensure the availability of food, water, and emergency care, and moreover, provide every service and support activity that defines and empowers both countries.

With a considerable amount of this critical infrastructure located within or passing through the St. Clair County area, there were concerns about higher risk and the consequences to both countries if an incident occurred. Delivery of essential services is two-fold. One is the sustainment and preservation of the lives of the one hundred seventy thousand residents, and the other is to ensure continued flow of commerce that supports millions of people.

The survey results provide an understanding of current public confidence and expectations of the government to provide essential services in a large-scale event. Essential services are provided by government at different levels, in addition to the private sector. The St. Clair County survey utilized three questions in an attempt to identify and separate the essential services of county government, local government and the private business sector. Full survey results can be found in Appendix 1.

The questions were presented in an open fashion that did not attempt to direct a specific response. This form of questioning led to various levels of interpretation. One of the questions asked, “Does the public expect government to physically provide the essential service or ensure that the planning process includes the delivery of it?” It is an assumption for the expectation of medical services as it applies to pre-hospital care to include Emergency Medical Transport and Hospital Emergency Room Care. Some of these services are provided by government and some by the private sector

The following chart provides the order of expectations for the delivery of county, local and private sector essential services in a major event. The questions were presented requiring the respondent to list five most essential services expected and who they expected it to be provided by.

Table 1. Public expectations of essential services.

<b>County</b>		<b>Local</b>		<b>Private</b>	
1. Medical	17.2 %	1. Medical	16.7 %	1. Food	12.0 %
2. Shelter	14.1 %	2. Shelter	12.3 %	2. Shelter	10.1 %
3. Food	8.4 %	3. Communication	10.5 %	3. Water	8.3 %
4. Water	8.2 %	4. Food	8.6 %	4. Medical	8.1 %
5. Communication	9.1 %	5. Water	8.3 %	5. None	6.2 %

The results for government contained the same five expectations in different rankings. There were 122 participants that listed medical as their number one expectation for county government and 99 for local government even though the majority of services are provided by the private sector. The results may demonstrate that the public does not understand which agency or business provides the different types of essential services.



The results do possibly indicate the public expects these five essential services delivered — and they do not care who provides them. The services required to ensure operations are a collaborative effort between the private and public partners, which relies on a strong network of interdependencies.

The first expectation was that of medical services. If citizens expect the medical system to be operational in a large-scale event, not only to provide treatment in life-threatening situations, but to continue addressing the everyday health needs, serious problems arise. Appointments scheduled weeks in advance and the inability to deliver service is a significant disruption of everyday life. This disruption can create higher demand on emergency medical services which may overwhelm existing physical and human resources. Additional consideration must be given to external resources required, such as medicine, supplies and staffing. These interdependencies create a very complex system that challenges the basic expectations.

The second expectation was shelter. Shelter is one of the basic expectations in life and a majority of residents own or rent a home that contains the comforts they have worked to provide for themselves. Homes are where many of our required essentials come together to provide our quality of life. Do we assume that shelter is considered to be a citizen's home containing the basic essentials such as food and water or government-provided locations to house displaced residents?

When major events occur, residents often rely on friends and family to provide the necessary shelter until they can safely return to their homes. Sometimes it is necessary to turn to emergency shelters opened by the government. With the survey identifying food and water as being the next two public expectations, the sheltering expectation of the public could be for government to provide food and water as part of the sheltering process whether at a government shelter or private residences.

The third expectation was food. Food is an essential part of life and is contained within our homes for daily use. Food types include those that require cooking and others that require little preparation or are precooked with delivery in a matter of minutes.

Communities contain grocery stores and restaurants where food is plentiful and available for purchase daily. Many families stock their homes with food in conjunction with paydays creating various levels of inventory.

In many cases, shelters are not equipped with food on a daily basis. Citizens and government agencies utilize and expect food to be available from these commercial establishments on immediate notice. With both government and the public expecting food immediately, the interdependencies of numerous public and private support agencies come into play. A failure or disruption in the supply chain creates the potential for the unmet expectation of food.

The fourth expectation was water. Water being a life-essential element can be assumed as the reason for being listed. “Human life, as with all animal and plant life on the planet, is dependent upon water. Not only do we need water to grow our food, generate our power and run our industries, but we need it as a basic part of our daily lives — our bodies need to ingest water every day to continue functioning.”<sup>52</sup> People expect safe water, whether provided by a municipal water system or a private well.

Did the public expectation focus on water only as the essential need for the human body? If the participants understood the importance of water in the interdependencies required to deliver essential services, a higher placement might be in order. One can live on water alone for a period of time; however, the other identified expectations require the use of water in some form for providing other essential services as well.

Beyond water as an essential health item, there is also health issues associated with wastewater treatment in communities. In the blackout of 2003, some wastewater systems had emergency backup electrical generators; some wastewater systems without backup power were able to store sanitary sewage in the gravity collection system.<sup>53</sup> However, after filling the space in the limited storage of the sanitary sewer, personnel were faced with options of either allowing raw sewage to back up into residential

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<sup>52</sup> Len Abrams, “Water for Basic Needs,” *A 1<sup>st</sup> World Water Development Report* (n.p.: World Health Organization, 2001), available at [http://www.africanwater.org/basic\\_needs](http://www.africanwater.org/basic_needs) (accessed September 9, 2007).

<sup>53</sup>Michigan Public Safety Commission. *Report on August 14<sup>th</sup> Blackout*, 80.

basements, with significant public health issues, or overflowing at some point in the system to the receiving waters — a lake or a river.<sup>54</sup> These are interdependency issues that must be addressed when considering expectations and the realization that “water” is not just for drinking and cooking.

The next essential service identified was communications. Citizens receive and provide information continuously in our daily lives. Technology has enabled this to occur and has enabled them to become better aware and informed of issues. These expectations also require the timely flow of critical information be made available at a moment’s notice, twenty-four hours per day.

The term *communications* is very broad. Is communication just information flow, or is it equipment, or is it the combination of both? One might logically assume, in this survey of citizens expectations, that “communications” is information flow. Obtaining a status of the event and getting information is the expectation of the public.

The current emphasis and massive expenditures to achieve *interoperable* communications may not be understood or accepted by the public. Based on their need for basic information flow, do they really care if responders can talk to each other? Their phone call to 9-1-1 initiates a timely response to their needs. Public expectations are focused on outcomes rather than the process necessary to provide a necessary outcome. In a large-scale event, they are more concerned about information necessary to make their immediate life safety actions.

The expectations of the essential services provided by the private sector is consistent with those currently delivered. The highest expectation, identified by 52 participants, was food followed by shelter, water, and medical. Although these services are primarily provided by the private sector, there is a reliance on all levels of government to produce and provide this service. An expectation cannot be examined in isolation. The provision of providing food includes raw materials, processing, packaging, transportation, cooking, which in turn require facilities, personal, transportation and other

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<sup>54</sup> *Report on August 14<sup>th</sup> Blackout*, 80.

equipment. Many of these require electricity, fuel, and water as part of their operations. “Horizontal” planning may provide for a coordinated effort to ensure safe access to these facilities and prioritization in recovery efforts.

If the public does not understand the role of the private sector, has government examined the interdependencies required to deliver and meet their current planning process? Communities must understand the importance of this issue by thorough horizontal planning when considering how to meet expectations. What are the capabilities required to meet them and are they justified? Is government sending the wrong message to the public as part of their education programs? Failure to plan forces the community to take unmanageable reactive measures if an event occurs. This can produce ineffective responses, as demonstrated in New Orleans, creating a loss of credibility for all levels of government.

#### **F. EXPECTATIONS IN THE CONTEXT OF THE 2003 NORTHEAST ELECTRICAL BLACKOUT**

St. Clair County can look at lessons learned from the 2003 Blackout that affected the county. Every public expectation was affected by this event especially feeding and medical. The three hospitals operated under backup power, clinics and physician offices could not operate. Almost every grocery store and restaurant could not open and sufficient losses due to food spoilage.

Fortunately, with four electrical power plants located within the county, residents were without power for only one and one-half days. With warm summer days, abundant with daylight, residents were able to cope with the outage with minimal difficulty, as sheltering requirements were minimal. Several communities were brought back online within the first twenty four hours, enabling gasoline, food and other essential items to be available to other communities without power.

The blackout was a result of a cascading critical infrastructure system failure. Had the failure resulted from widespread disaster damage such as downed poles and wires, emergency response agencies would have been overwhelmed and the outage would have been longer in duration, potentially challenging other essential services.

For local government, the guidance of the Department of Homeland Security's National Infrastructure Protection Program and FEMA's Planning Guidelines may seem sufficient when evaluating the blackout as it occurred. What if the outage had occurred in winter? What if it lasted several days or even weeks? The impact on existing resources would be devastating if this incident had occurred in winter due to insufficient sheltering and feeding capabilities. Communities must examine the reliance of critical infrastructure interdependencies in their planning development.

The planning fails once the incident scenario is examined in the same widespread area in cold weather conditions. Appendix 2 applies the five citizen expectations to the event. The comparison identifies similar issues with medical and communications in both seasons. Issues arise with the expectations for sheltering and feeding of the population. The occurrence of the blackout during the summer months provided the opportunity to cook meals outside on grills in comfortable temperatures. The lack of power creates additional feeding problems in cold weather as outside activity is limited. Sheltering requirements in warmer weather are minimized due to the ability to stay outside. Winter temperatures require protection against exposure to low temperatures making indoor shelter necessary. The responsibility for providing essential services is contained in governmental emergency plans.

With the increasing potential for more major events, the identification of the expectations of all parties is necessary. Without a collaborative effort, government, private business, and the general public cannot share their expectations of essential services as the precursor to the development of an effective continuity program. A collaborative effort becomes a proactive rather than a reactive opportunity.

Merriam-Webster defines *proactive* as "acting in anticipation of future problems, needs, or changes." When compared to the previously stated definition of expectation, there are close similarities. Both focus on acting now for the future. Until planning guidance addresses expectations in a proactive environment, the current delivery of essential services will continue to be ineffective and overwhelmed in a major event. The

failure to address expectations will leave communities vulnerable. After such an event, there will be a public outcry regarding the ineffective government response and the need for change.

In St. Clair County, the public has identified five expectations of essential services when a large-scale event occurs. These expectations are: medical, shelter, food, water and communication. Some of these are provided by government and some by the private sector. It does not matter who provides the service, it is a service the public is accustomed to on a daily basis and the foundation for their life safety.

Identifying expectations in advance will assist in planning efforts, especially when the planning guidance that communities utilize focuses on the continuity of operations within government. Government may create a continuity of operations plan for their provided services; however, it is clear that essential services extend far beyond their current planning guidance. In the current stove-pipe planning process, there are no assurances of planning interaction between sectors, potentially creating points of failure in a system reliant upon interdependencies. Identifying the public expectations of these essential services enables the opportunity to evaluate the existing planning strategy as it applies to meeting those expectations.

## **IV. ASSESSMENT OF ABILITY TO MEET EXPECTATIONS**

To be proactive, a community must understand the expectations of its citizens as well as examine their capability to meet those expectations. In most cases, there will be significant gaps between the two. This chapter will discuss capabilities and how the trust and confidence of government affects the public expectations of essential services. Without proper planning that includes the interdependencies of essential services, communities may not be able to meet these public expectations.

Government provides essential services within their fiscal constraints on a daily basis with reasonable success. As demonstrated in Chapter III, it must be understood that public expectations of government in a disaster may not be those same services planned for continuity by government and infrastructure sectors. Several factors must be considered in the ability of a community to provide essential services that may or may not be able to meet public expectations. If these services cannot be provided, does government have the expectation that the public needs to prepare themselves even more? Has this been communicated effectively?

The ability to meet essential services expectations of citizens can be determined by the capabilities of the services that are provided by public and private sectors. Without a clear determination of capabilities, the gap between the expectations and the ability to delivery those essential services cannot be determined.

### **A. CAPABILITIES**

Recent events have created the need to re-examine the risk and current strategy of organizations. The lessons of the recent past have shown that risk is dynamic; the types and magnitude of potential incidents that the nation confronts have changed. It is now necessary for communities to truly quantify the gaps that exist in prevention, protection, response, and recovery capabilities, by reviewing their current all hazards risk profile and the impact of past and ongoing preparedness investments. This approach must take into account public expectations, current state and local capabilities, federal capabilities, and

importantly, must be consistent with federal guidelines to determine the current status of preparedness and provide the ability of ensuring the delivery of essential services.

Beyond preparedness, today's society places strong emphasis on customer service, not only in the private sector but also by government for the private sector. Whether dining, shopping or entertainment, the capability to provide quality service is expected and the lack of a capability creates customer unhappiness and potential loss of business.

In government, the unhappiness relates to loss of confidence and ultimately potential loss of support for funding various projects that may be an instrumental part of the overall strategy. Public managers are squeezed between budgetary constraints and the constant clamor for efficiency, on the one hand, and, on the other, demands to produce improved social outcomes from generations of stakeholders now conditioned to expect superior customer service in virtually every other aspect of their daily lives."<sup>55</sup>

The uniqueness of government as the sole provider of the service within a community is that competition does not drive the level of service. If citizen expectations are not identified, government delivers services according to budgetary considerations and their own perception of the level of service necessary. The commitment and the delivery of a quality service that meets a community's needs is a key to maintaining community trust and confidence.

## **B. WHAT ARE THE EXISTING CAPABILITIES AND WHERE ARE WE SPENDING OUR MONEY?**

### **1. Federal Guidance**

The National Preparedness Goal defines what it means for the nation to be prepared by providing a vision for preparedness, establishing national priorities and identifying target capabilities.<sup>56</sup> The plan adopted a Capabilities-Based Planning process

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<sup>55</sup> Greg Parston, "Unleashing Public-Service Value Through Innovation," *Outlook*, May 2007, 1.

<sup>56</sup> Department of Homeland Security, *Target Capabilities List 2.0: A Companion to the National Preparedness Goal*. Draft. (Washington, DC: Government Printing Office, December 2005): iii.



supported by three planning tools which includes the Target Capabilities List.<sup>57</sup> DHS provided the Target Capabilities List (TCL) to assist communities in evaluating their capabilities.

The TCL provides a guide for development of a national network of capabilities that will be available when and where they are needed to prevent, protect against and respond to, and recover from major events.<sup>58</sup> Phase One of the TCL, which is designed for response, is a process-oriented document containing thirty-seven capabilities. A second phase oriented toward prevention and preparedness is currently being developed. The TCL provides guidelines for assessment of capabilities, identifying and understanding public expectations is an important factor in the assessment process.

The capabilities assume local jurisdictions have an operational level of required capabilities to address most routine emergencies and disasters, such as routine fire and law enforcement services or seasonal flooding.<sup>59</sup> The TCL addresses unique capabilities and incremental resources required for terrorism, very large-scale disasters, pandemic health emergencies, and other major incidents.<sup>60</sup> These resources may not be located within a community but available from outside sources.

Extended Regional Collaboration is identified as an overarching priority in the National Preparedness Goal in recognition that large-scale events will require a shared response across jurisdictions, levels of government, and the public/private sectors.<sup>61</sup> Standardization of geographic regions will enable coordination of preparedness activities more effectively, spread costs, pool resources, share risk, and thereby increase the overall return on investment.<sup>62</sup>

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<sup>57</sup> *Target Capabilities List 2.0*, iii.

<sup>58</sup> *Ibid.*, v.

<sup>59</sup> *Ibid.*, 5.

<sup>60</sup> *Ibid.*, 1.

<sup>61</sup> *Ibid.*, 14.

<sup>62</sup> *Ibid.*, 14.

Utilizing a standard tool within a nationwide network is an excellent vision. However, in a major event that affects numerous jurisdictions and states, the true reality is a community is or can be on their own for a period of days prior to receiving outside services. As essential services span the private and public sectors, a collaborative understanding of the expectations of all partners must be placed on the table and shared by all.

## **2. County**

The blackout of 2003 provided the opportunity for St. Clair County to redefine their planning process. Although the occurrence was in the warm summer months, the Homeland Security – Emergency Management Office studied the effects of the incident as if it had also occurred in cold winter months. This is listed in Appendix 2. It demonstrated that the existing paper plan did outline responsibilities and the agencies required for such an incident, but would not be effective in a countywide or regional event.

The plan did not address capabilities, continuity of essential services, or a strong prevention/preparedness component. After action discussions identified these as deficiencies that required change. Until the blackout, the primary focus of county planning centered on response to hazardous materials incidents.

Planning for the cold weather blackout initially produced two primary expectations that the public would have. The expectations of shelter and food became the initial planning focus. The St. Clair County survey confirmed these two as important public expectations. A review of the existing shelter program indicated approximate 90 percent of the identified shelters lacked backup power to provide warmth to those requiring shelter. Shelter plan guidance is designed for the single incident response and if necessary, utilization of sheltering in adjacent communities.

St. Clair County HSEM then realized the necessity for resilience to be an integrated part of the planning process. The local community provides certain essential services but is reliant on a network of interdependencies for other essential and support

services. The blackout of 2003 demonstrated that failure within this network could leave widespread areas isolated for extended periods of time. Minimizing the effects of an incident places less burden on local resources and allows the community to recover faster.

Currently absent is the ability to identify the expectations of the public, consequently *government* expectations and needs are utilized to determine grant allocations and expenditures. Governmental agencies in St. Clair County have identified the need for an interoperable radio system since the early 1990s. Overcrowded frequencies and the inability to communicate between disciplines has been a consistent identified deficiency in annual exercises. This deficiency affects almost every aspect of the Incident Management System utilized by communities creating additional deficiencies in the delivery of essential services.

The identified solution was to integrate into the State of Michigan's 800 MHz radio system. This system meets the expectations of the emergency response personnel in dealing with emergencies; however, it lacks the support of the citizens. Citizens refused to pass a ballot proposal in 1996 to fund the project. Government and emergency response personnel insisted that the project be implemented and, for several years, the majority of Homeland Security grant dollars have been utilized for a phased integration into the system. This is consistent with the identification of interoperable communications as an overarching priority in the National Preparedness Goal.

The grant funding and issuance of a bond have provided funding to complete approximately 80 percent of the system. A 2007 ballot funding request was soundly defeated by the public that voiced concerns over an additional tax and the lack of trust in government, thus leaving the county with an 80 percent functioning radio system. This in turn jeopardizes the ability to deliver essential services that would meet public expectations in a large scale event.

Grant dollars have been also utilized to improve other capabilities. The capabilities that the government has also put some emphasis on are consistent with the Target Capabilities contained within the TCL. They include Responder Health and Safety

and WMD Hazardous Materials Response and Decontamination. Both capabilities do not align with the citizen expectations but are consistent with the identified risk to the county.

Applying the majority of grant dollars to the Interoperability Communications project has created the inability to fund other potential solutions that would meet the expectations of the public. Are government desires to build a reliable, functioning radio system consistent with meeting citizen expectations? In the current environment, citizens say *no* and government says *yes*. The decision for utilization of grant dollar allocation has been primarily determined by the emergency responders but the public argument is that government's goals that will help meet citizen's expectations have not been communicated effectively.

The St. Clair County survey identified five essential services that the public expects in a major event. These five expectations are consistent with the Target Capabilities contained within the TCL and are included in Mass Care, Medical Surge, and Emergency Public Information and Warning. The current planning process provides the opportunity for the county to address each of these expectations, yet it is not clear whether these expectations are the ones on which the county is currently focused.

The St. Clair County survey identified that medical issues were the highest expectation of an essential service. The survey also asked how confident the public is of the healthcare system responding effectively to a large-scale event. The results indicated that 47 percent were either not, or less, confident that the system would respond effectively.

Table 2. Public confidence of health care system in large scale event.

Rank	Not Confident				Very Confident	Incomplete Answers
	1	2	3	4	5	
Number	41	44	44	36	13	2
Percentage	23%	24%	24%	20%	7%	1%

In the county, the majority of the medical services are provided by the private sector. Government agencies have minimal resources to address this and must rely primarily on the private sector.

Other assessments of medical/health agency preparedness across the nation identify serious shortfalls similar to St. Clair County. In a Columbia University survey, only 27 percent of those surveyed were very confident or confident that our health systems are prepared for a large-scale event, but show a steady decline in the confidence of our public health system to respond to an act of terrorism from 53 percent in 2002 to 39 percent in 2004.<sup>63</sup>

The lack of confidence in the current health system within St. Clair County, in addition to the high expectation for medical care, should be a warning flag for government. The health care system in St. Clair County is challenged by medical surge on a daily basis. Plans have been implemented and exercised to reduce the population by 10 percent to address medical surge. Difficulty in obtaining sufficient staff for daily operations, let alone extended sustainment, is an issue facing all three hospitals.

Efforts to improve health system preparedness continue through the federal grant programs. The Health and Human Services Department (HHS) has a grant process for the hospital, pre-hospital and health disciplines to address medical surge needs, along with numerous health response planning issues. Committees of these disciplines were formed with by-laws, goals and objectives, exercising requirements along with other issues being addressed. DHS also has a grant program that includes all disciplines that also have by-laws, goals and objectives. Issues that are substantially broader, however, address medical surge and other issues that are contained within the HHS grant.

This continued stove-pipe grant planning process creates difficulty at the local level. HHS grant management teams are not consistent with the DHS teams, which creates confusion and some duplication of effort. With limited resources to address numerous risks, including health emergencies, a community cannot afford to plan in a stove-pipe manner with any hope of either meeting citizen expectations or even clarifying where services actually originate.

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<sup>63</sup> Columbia University Study, "How Americans Feel About Terrorism and Security: Three years after September 11," November 2004.

### **3. Gap**

The potential for significant improvement in a communities planning process utilizing the TCL exists. Yet the strong focus on regional asset and planning to meet the National Preparedness Goal deters preparedness at the local, individual jurisdiction level. The current grant allocation process builds upon the regionalization and capabilities within the TCL. This process moves the previous stove-pipe grant allocation, which enabled counties to receive direct grant funding to a regional level.

Reduced grant funding is now allocated based on regional planning with the goal of improving capabilities to reduce risk at that regional level. Capabilities from within a region may be sufficient in an overall response to a significant incident, or several incidents, as the current planning process calls for. What occurs if the incident is so widespread that resources are not available? Will neighboring states have resources available, and, if so, when?

St. Clair County has implemented regionalization into the county planning process through the creation of five planning districts for coordination centers. The continued planning emphasis is at the local jurisdiction level to address the “you are on your own” concept for a 72-hour period. The true understanding of expectations and the delivery of essential services must center on this concept. In other words, resources from outside the community cannot be expected and the community must proactively address individual, not regional, community capabilities to meet the expectations of the public.

Lacking from the planning process is emphasis on the interdependencies that are required to provide essential services. This requires a network operation that can sustain damage and continue to function or recover in minimal time. Key components to providing essential services that the public expects may be located within a local community. The current grant allocation process cannot continue to be directed entirely toward regional projects without the establishment of a county baseline amount enabling

them to close local gaps. The inability of local communities to fund the necessary improvements to the current capabilities will widen the gap in government's ability to meet the expectations of the public.

The effort to close the gap to meet the medical expectations by the public has not been effectively met by the current grant and planning process. Lacking is the integration of the two separate funding and planning mechanisms, (DHS and HHS,) into one planning strategy. Government planning efforts must fully incorporate the private sector into a seamless effort as the majority of capabilities are provided by that sector.

The current government response plan assigns the responsibility of shelter operations to an outside agency. Public expectation identifies government and the private sector as providing sheltering. The inability of government to close this gap has been the reliance on the private sector and failure to recognize the interdependencies required to support shelter expectations. This lack of recognition directly affects the capability to meet public expectations.

The public expectation of food is not being adequately addressed by government. Current planning assigns the responsibility of feeding to an outside volunteer agency. The lack of a capability assessment that incorporates the numerous interdependencies is required to establish an effective feeding program.

Water is an essential expectation that must be provided to sustain life and the provision of services. Current planning addresses the ability to meet the expectations of residents within a community to provide necessary water during an emergency event. Lacking is an assessment on the essential services requiring water to operate, the length of time they can operate on existing supplies, and the effects on services if operations are ceased.

Government has the responsibility to provide communications to the public and relies on private sector resources to deliver those communications. There has been some progress in providing the public with the necessary communications through technological purchases.

The St. Clair County survey provided five essential services the public expects during a large-scale event. In the evaluation of the current efforts to meet those expectations, the county has done a less-than-average job of addressing those expectations; the primary focus has been communications, but mostly for emergency responders, not to communicate to the public. The public expectations identified will require a proactive planning approach through a public–private partnership and a change in policy. This will be a difficult challenge in a reactive, response-oriented culture.



## **V. OTHER CHALLENGES IN MEETING EXPECTATIONS**

“The primary goal of every city in America is to be a safe city, a place where residents feel safe, secure, and confident that local leaders know what to do in case of emergency.”<sup>64</sup> This is an expectation of the residents of our communities who pay taxes for several of the essential services necessary to perform this task. The security of their homes, businesses, friends and family are entrusted to the government.

When identifying the ability of government’s effort to meet the expectations of the public, several other challenges were identified. Trust and confidence in government is an important factor when concerning preparedness and funding efforts. The current stove pipe planning restricts the identification of the interdependencies required to provide essential services. The inability to provide essential services creates the need of the public to prepare themselves for events. All of this must be considered in the future planning process in order to match the government capabilities to the public expectations.

### **A. TRUST AND CONFIDENCE OF THE GOVERNMENT**

A possible detriment to meeting expectations may be trust and confidence in government. Trust and confidence are key issues in delivering essential services that need to be addressed by every unit of government, private sector and every resident. Without trust, projects and processes can be slowed down or even destroyed. The lack in confidence in the government could conceivably be a motivating factor for preparedness. However, “even as people perceive government to be failing in its effort to prepare the country, it has a depressing impact on the public’s motivation to get prepared.”<sup>65</sup> Having trust and confidence in disaster preparedness efforts is essential to an effective public-private community oriented planning process.

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<sup>64</sup> National League of Cities, “Homeland Security: Practical Tools for Local Governments,” November 2002, 2.

<sup>65</sup> Anthony Ramirez, “Polls Show Drop in Assurance Since the Attacks of Sept. 11,” *New York Times*, September 8, 2006.

The public's confidence in the government to respond adequately to a terrorist attack, natural disaster or public health emergency has dropped sharply since the September 11, 2001, terrorist attacks.<sup>66</sup> Throughout the nation, trust and confidence in our government is extremely low.<sup>67</sup> This is far more reaching than national security and disaster management. However, a recent survey indicated that governmental response to the hurricanes added to the drop in confidence level. Fewer than half of those surveyed said they thought the government is "very prepared" to deal with this year's hurricane season. Only half agreed that the federal government had "learned a lesson from Hurricane Katrina" — which swamped New Orleans, killing more than fifteen hundred people and displacing hundreds of thousands more — "and the nation is better prepared for a major disaster as a result." More than four in ten respondents said the government had not learned anything.<sup>68</sup>

Regarding Katrina-related matters, more than half of the survey's respondents (53 percent) said the government's handling of the hurricane had a negative impact on their confidence in government overall. Only 13 percent said it had a positive impact and 28 percent said it had no impact.<sup>69</sup>

In each community, there are a percentage of prepared residents and unprepared residents. What prevents those individuals from preparing? Is it the issue of trust, lack of education, financial issues or does perception of risk drive preparedness? If a large-scale event occurs, is the confidence of local government and the emergency response system important to community preparedness, or would the lack of confidence in the emergency response system and the realization that their expectations may not be met, motivate

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<sup>66</sup> Anthony Ramirez, "Polls Show Drop in Assurance Since the Attacks of September 11." *New York Times*, September 8, 2006.

<sup>67</sup> Lewis J. Perelman, "Shifting Security Paradigms: Toward Resilience," *Critical Thinking: Moving from Infrastructure Protection to Infrastructure Resiliency*, Arlington, VA: George Mason University, School of Law (February 2007), 35.

<sup>68</sup> National survey by the Kaiser Family Foundation, *The Washington Post Company*, August 21, 2006, <http://www.washingtonpost.com/wp-dyn/content/article/2006/08/20/AR2006082000535.html> (accessed February 13, 2006).

<sup>69</sup> National survey by the Kaiser Family Foundation, *Washington Post*.

residents to prepare themselves? In both cases, there will be the prepared and unprepared all having certain expectations of essential services.

These issues are important, but to effectively prepare, there must be an understanding of risk and what are the essential services and expectations of them by the public. Understanding the risk that a community faces is problematic to both the public and private sectors. Local communities are faced with a system that does not have a consistent risk assessment methodology, which leads to flawed or non-effective strategies in the development of capabilities that enable the delivery of effective essential services.

Without this knowledge in advance to plan, the potential for failure increases once the incident occurs and the emergency response system reacts. The nation watched as hundreds of New Orleans residents expecting to be sheltered, stood helplessly without food and water for several days as the existing planning process failed. Those failed services are the same as expected by the public as identified in the St. Clair County expectations survey.

## **B. IS THE CURRENT PLANNING PROCESS EFFECTIVE?**

Identifying the public expectations of these essential services enables the opportunity to evaluate the existing planning strategy as it applies to meeting those expectations. Since the watershed event of 9/11, the hard security path followed by the U.S. government has given substantially higher priority to terrorist threats than to other kinds of threats or risks.<sup>70</sup> DHS and other related federal agency programs have centered on physical and cyber security preventive measures.<sup>71</sup> This demonstrates the nation's continuation of a reactive measure to events.

Despite the warning provided as a result of the failures demonstrated by the power blackout of 2003, and the more recent natural disasters, strategic guidance related to critical infrastructure has continued to focus on mitigation of the terrorist threat.<sup>72</sup> This

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<sup>70</sup> Perelman, "Shifting Security Paradigms," 26.

<sup>71</sup> Paula L. Scalingi, Moving Beyond Critical Infrastructure Protection to Disaster Resilience (February 2007), 53.

<sup>72</sup> DHS Report to the Critical Infrastructure Task Force (Washington, D.C.: January 2006) 3.

is despite the Presidential Directive HSPD-8 emphasizing all hazards preparedness. The conceptual design for this policy thrust is based on protection that has been embodied in DHS's National Infrastructure Protection Plan (NIPP), largely focused on protection of "critical infrastructure and key resources" (CI/KR)<sup>73</sup> The NIPP's top-down/federally-driven and public resource/grant funding focus has resulted in process rather than a capability focused, sector-based and committee intensive, effort that fails to include the expertise of community officials.

This type of planning often results in a checklist, or boiler-type, planning and response format to deal with different types or categories of risk as different problems that then require a different set of solutions. This creates risk stovepipes and causes increased risk exposure that cascades across the public and private sectors in complex ways. With individual stovepipes, the potential for overlapping planning and response efforts will occur. Former DHS Secretary Tom Ridge recognized the fundamental weakness of stovepipes in relation to information sharing and expressed the need to eliminate this by stating,

We're going to knock down the information 'stovepipes' throughout government and turn them into pipelines. That's one reason why we created the Homeland Security Advisory System. One lesson of 9/11 is that when information doesn't get to the right people in time, it can be just as dangerous as when it falls into the wrong hands.<sup>74</sup>

Planning prior to an incident is essential but it cannot be done in isolation. Unfortunately the federal-oriented stove-pipe planning and information sharing approach focuses on a sector-based system that creates the environment of isolation within a community rather than a cohesive interacting system. Local communities form the committees established by the grant requirements and must work within those requirements for funding. This continues to demonstrate the stove-pipe approach is solidly entrenched down to the local level. There must be a change to a cohesive interacting system that leads into the further development of community continuity

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<sup>73</sup> Scalingi," Moving Beyond Critical Infrastructure," 53.

<sup>74</sup> Tom Ridge, Director of Homeland Security, Associated Press Annual Luncheon, April 29, 2003.

planning to ensure a community can minimize and recover quicker from the effects of an incident. This last concept is also called resiliency.

The planning process has focused on single events affecting a community, which allows the utilization of surrounding resources to mitigate the incident. Scenarios are created to utilize existing and/or mutual aid resources and to demonstrate acceptable preparedness levels with limited deficiencies. The emergency management plans of these public and private sector infrastructures and essential service providers are, at best, adequate to address localized incidents and events.<sup>75</sup>

Community plans do not take into account disasters with extensive and prolonged impacts that may include destruction of critical components, systems and facilities, causing outages of weeks or months and shortages of personnel and expertise to restore critical services.<sup>76</sup> Large-scale multi-jurisdictional exercises very seldom occur due to the planning guidance that focused on individual communities rather than multi-jurisdictional events.

The lack of large-scale planning and exercising was clearly demonstrated as the aftermath of Hurricane Katrina left the Gulf Coast in desperate need of resources and assistance. Nearly a quarter of a million people in shelters relied on shipments of ice, food, and water to meet their basic needs.<sup>77</sup> FEMA simply could not procure enough resources to match the rate at which commodities were being consumed. The agency's contracts with private companies, though sufficient for smaller disasters, were incapable of supplying the enormous quantities of resources needed.<sup>78</sup>

This failure demonstrates the need to address homeland security and emergency preparedness at the regional and local levels for the simple reason that when disaster

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<sup>75</sup> Scalingi, "Moving Beyond Critical Infrastructure," 49

<sup>76</sup> Ibid.

<sup>77</sup> U.S. Department of Homeland Security, "Hurricane Katrina DHS SITREP #21," September 5, 2005.

<sup>78</sup> Michael Brown, former Director of the Federal Emergency Management Agency, testimony before a hearing on Hurricane Katrina: The Role of the Federal Emergency Management Agency, on September 27, 2005, House Select Committee to Investigate the Preparation for and Response to Hurricane Katrina, 109th Congress, 1st session, 49-50.

strikes, the major burden of response and recovery is on local authorities involving local response.<sup>79</sup> With limited resources within communities, would regionalization or multi-jurisdictional planning be beneficial — or is the reality of “you are on your own for seventy-two hours” more reasonable?

Historically, the American governance system, divided into federal, state, and local jurisdictions, does not provide a natural vehicle for addressing public policy issues from a regional multi-jurisdictional perspective. The autonomy of local jurisdictions and competing priorities within and among them can make regional coordination difficult.<sup>80</sup> Incentives and guidelines that move this planning process forward may be required to ensure the right players are involved. Moreover, the success of other regional collaborations must be reviewed to determine whether these examples could be appropriated to address homeland security issues. Until this happens, the nation will continue down the path where individual agencies and jurisdictions prepare and respond to disasters on their own terms.<sup>81</sup>

With only federal planning recommendations and the voluntary NFPA standard to follow, local communities and states are also not compelled to ensure the continuity of the services it provides. Existing plans may conceptually identify the need, but lack the detail to ensure the dependencies and deliverables from numerous assets are addressed. Furthermore, our current approach to response planning does not sufficiently acknowledge how adjoining communities and regions can and do support each other.<sup>82</sup> For example, there is wide disparity in emergency response capabilities across the

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<sup>79</sup> Brandon J. Hardenbrook, “The Need for a Policy Framework to Develop Disaster Resilient Regions.” *Journal of Homeland Security and Emergency Management* 2, no. 3 (2005): 15.

<sup>80</sup> United States Government Accounting Office, Report to the Chairman, Committee on Government Reform, House of Representatives Homeland Security Effective Regional Coordination Can Enhance Emergency Preparedness (Washington, DC: GAO-04-1009): 8.

<sup>81</sup> Hardenbrook, The Need for a Policy Framework, 1.

<sup>82</sup> The White House, *The Federal Response to Hurricane Katrina, Lessons Learned*, 67.

country's local jurisdictions.<sup>83</sup> Yet we currently lack the means to assess and track what these disparities are and, consequently, how we must plan to account for them in a crisis.<sup>84</sup>

### C. INTERDEPENDENCIES

Critical to essential services in any preparedness or response activity, correct resources are required to effectively address the issue. In a planning approach, this is also very important. In regional planning and collaboration efforts, resources are the key components of the community, including the private sector. Expectations of the delivered governmental services are dependent upon numerous private-sector partners, including the citizens themselves.

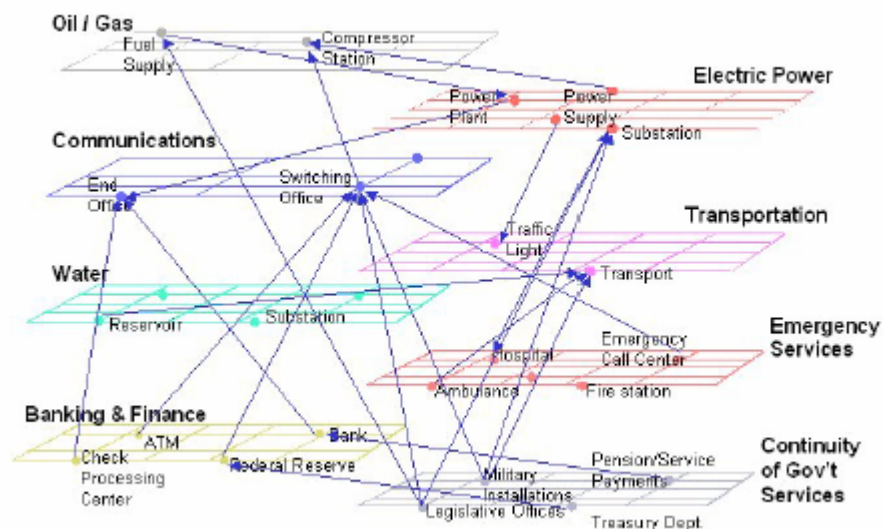


Figure 1. Network of interdependencies.

This is an example of interdependencies in society today.<sup>85</sup> It provides examples of various sectors and supports the need for horizontal planning rather than vertical sector

<sup>83</sup> *The Federal Response to Hurricane Katrina, Lessons Learned*, 67.

<sup>84</sup> *Ibid.*, 67.

<sup>85</sup> Michigan Public Safety Commission. *Report on August 14<sup>th</sup> Blackout*, 71.

planning. In addressing interdependencies, there must be collaboration that includes an understanding the community may not be the location of the incident, yet needs to respond to the resource expectations from another community. The effective alignment of resources for the security of communities should require planning across jurisdictional boundaries; neighboring jurisdictions may be affected by an emergency situation in many potential ways — from the implementation of mutual aid agreements, to accepting evacuated residents, to traffic disruptions.<sup>86</sup>

Communities may face the reduction or limitation of resources available to them. In some instances, state and local governments and responders may become victims themselves, prohibiting their ability to identify, request, receive, or deliver assistance, significantly affecting the expectations for essential services. This is the moment of major crisis — the moment when 9-1-1 calls are no longer answered; the moment when hurricane victims can no longer be timely evacuated or evacuees can no longer find shelter; the moment when police no longer patrol the streets, and the rule of law begins to break down.<sup>87</sup>

Expectations that the preparedness and dedication of the key essential services personnel to the public comes before their personal needs may pose a false sense of security and affect individual preparedness efforts. Failure for key personnel to adequately prepare their families may reduce the level of services provided. There were numerous gaps in essential services after the hurricane as some responders placed personal needs before their professional commitment.<sup>88</sup> A Council for Excellence in Government survey indicated that 65 percent of responders believe their agencies are only somewhat prepared to respond if disaster strikes.”<sup>89</sup> This supports an even further need for preparedness planning to overcome response shortfalls.

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<sup>86</sup>United States Government Accounting Office, Report to the Chairman, Committee on Government Reform, House of Representatives Homeland Security Effective Regional Coordination Can Enhance Emergency Preparedness, 9.

<sup>87</sup> *The Federal Response to Hurricane Katrina, Lessons Learned*, 18.

<sup>88</sup> Ibid.

<sup>89</sup> The Center for Excellence in Government. *From the Home Front to the Front Lines: America Speaks Out About Homeland Security*. (Washington, DC: Hart-Teeter, 2004), 46.



The St. Clair County Survey found that medical assistance was of importance to all three groups. If the public concern centers on medical surge, do the current grant allocations place a high emphasis on this? Through the 2006 grant process, the Health Grant has been utilized to address the shortfalls of medical surge. The Urban Area Security Initiative has ignored the medical issues and focused on response issues for police and fire. Recommendations that would address four of the five public expectations have either been ignored or failed to be presented. Only interoperable communications systems for first responders and public warning systems have been addressed.

Public-private collaboration is essential to reduce those competing priorities as many communities share the same essential services. More recently, businesses have begun to adopt *resilience* as their over-arching objective, which implies an ability to adapt to changing environmental conditions more generally — not only to the direct impacts of a disaster. According to a 2002 paper by Gartner,

. . . enterprises are taking on the new challenge of deliberately designing resilience into their management of people, places, infrastructure, and work processes.” The paper goes on to say that: “Business resilience emerges through business, corporate and IT leaders deliberately working together across geographical, functional, business and decision-making boundaries to build an organization that rebounds, adjusts quickly and resumes operations.”<sup>90</sup>

Understanding interdependencies is an important part of the planning process in order to address the expectations of the public. The utilization of horizontal planning for risk and capability assessment allows for a clear understanding by the providers of essential services of the level of preparedness within that community. Comparing the preparedness level to the expectations for essential services will allow for the plan to then address the expectations of the citizens to meet the shortfalls of essential services within the community. Are the citizens willing to accept more personal responsibility, or will the providers of essential services be expected to do more?

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<sup>90</sup> “The Blueprint for the Resilient Virtual Organization,” Gartner, Inc., 2002, ID Number: AV-15-0894, 2.

## **D. CITIZEN PREPAREDNESS**

Public perception is that services such as police, fire and EMS are the first responders in an emergency situation. The reality is that citizens themselves are the true first responders. Whether a Midwest tornado or the Oklahoma City bombing, citizens provided immediate assistance to the victims and potential victims prior to the arrival of emergency services. Citizen involvement is an expectation of both the public and private sectors in preparedness and response planning in our communities. Citizen preparedness is critical in the planning process; however, is the current focus effective?

Taxpayers are currently bankrolling a rapid-reaction military force that is able to deploy to any part of the globe within eighteen hours. But as a general rule, the White House has been telling communities that they should not count on receiving emergency federal assistance for at least seventy-two hours.<sup>91</sup>

The government-based “Ready” program is an attempt to institute behavior changes at the individual level. The campaign focuses on preparing individuals for a period of seventy-two hours, with necessities such as food, water, radio, and flashlight, in the event responders cannot provide essential services in a timely manner.<sup>92</sup> Those vital items directly relate to reducing the burden on essential services provided by public and private sectors during a large-scale event.

Guidance in determining the level of citizen preparedness is available in the DHS Target Capabilities List (TCL). St. Clair County’s ability to meet citizen preparedness capabilities as outlined in the TCL would require the county to prepare 80 percent of the 170,000 residents.<sup>93</sup> The total of the 80 percent is 136,000, and results of the St. Clair County survey, 41.3 percent (70,210), indicated a level of preparedness. The additional number of residents requiring preparedness training would be 65,790. To meet this, using the recommended rate of 5 percent (3,375) of the citizens per year being trained, it would take just over nineteen years to reach the recommended 80 percent level.

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<sup>91</sup> Flynn, *Edge of Disaster*, 170.

<sup>92</sup> Department of Homeland Security, Target Capabilities List. 111.

<sup>93</sup> Ibid.

This is an unrealistic timeframe to address the risk posed by major events faced by communities. There is great difficulty attempting behavior changes. After Hurricane Katrina, studies showed the number of individuals staying relatively consistent or even dropping.

- Does your household have an emergency supply kit at home to be used only in the case of an emergency disaster? <sup>94</sup> (pre: 50 percent, post: 46 percent)
- Does your family emergency preparedness plan include at least two days of food and water, a flashlight, a portable radio and spare batteries, emergency phone numbers, and a meeting place for family members in case of evacuation?<sup>95</sup> (pre: 30 percent, post: 31 percent)

The decision-making process of an individual requiring to take action will be based on their thoughts regarding past, present, or future intentions. Those who utilize the past often may have limited exposure to a major event as all incidents previously experienced were mostly small, localized events. They utilize memories from experiences to take the appropriate course of action such as the previous experience wasn't that bad and we are still here today. Whether a positive or negative memory of an experience, this could be the tipping point for someone to become better prepared.

Individuals who are present oriented take immediate actions based on the situation and do not think about the consequences of their actions. People who make decisions based on present-oriented thinking will be difficult to change. Rather concentrate on behavior, policy change to their environment may create an improved safety barrier that ensures the delivery of essential services, would reduce situations requiring actions. Those individuals who look to the future anticipate the consequences and prepare by actions such as stocking supply kits, heeding evacuation messages, and possibly leadership to influence others to increase preparedness efforts.

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<sup>94</sup> "A Post-Katrina Assessment," *Citizen Preparedness Review* 2 (Spring 2006): 5.

<sup>95</sup> Ibid.

A question regarding workplace emergency preparedness kits was asked in the St. Clair County survey and a breakdown of those having kits indicates the majority of those kits do not contain food and water.

Table 3. St. Clair County workplace preparedness kits.

<b>Item</b>	<b>Has item in kit</b>	<b>Has kit but not item</b>
Food and Water	22	53
Portable Radio	40	35
First Aid Kit	67	8
Flashlight	53	22
Spare Batteries	45	30

Providing essential services in a large-scale event may require continuous operation for several days if not weeks. These results indicate that the private sector preparedness levels are very limited and must rely on outside resources for food to maintain operations. The need for planning that addresses continuous uninterrupted supply of essential services for all critical agencies is essential.

There is willingness for citizens to become involved as 62 percent of Americans have indicated a desire to volunteer time to support emergency services within their community.<sup>96</sup> The need for involvement is supported by 86 percent of emergency first responders recognizing a need for citizen involvement in their communities.<sup>97</sup> In some disciplines, labor agreements prohibit the use of volunteers, protecting positions rather than delivering expected levels of service. The ability to determine the shortfalls that could be supplemented by citizen volunteers is necessary to improve capabilities.

Citizen preparedness reduces the burden on the response system, however, without the capabilities of the community identified and addressed; there is still the issue of handling the other 50 or so percent of the non-prepared community. Lacking is the

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<sup>96</sup> The Center for Excellence in Government. *From the Home Front to the Front Lines*: 5.

<sup>97</sup> *Ibid.*, 43.

proactive campaign to change the policies of the nation to ensure these essential services can continue or quickly return to operation during or after an incident.

Communities must identify their level of capabilities in determining what to prepare for. The lack of capability may require citizen or volunteer participation. The current national Community Emergency Response Teams (CERT) program is extremely beneficial to hurricane- or earthquake-prone areas. Yet the existing curriculum is less beneficial to other areas of the nation that do not face those threats and should not be adopted as a one solution answer to all

If volunteerism or citizen participation is important to communities, establishing trust and confidence is the foundation in developing acceptable programs for the public. The need for a change in culture to reflect preparedness by developing policy would begin to create a desire of the public to create safer communities by ensuring that essential resources can and will be delivered in a timely manner. The policy would focus on resilience as opposed to protection as the standard for planning in our nation and communities.

Both government and the critical infrastructure sectors must ensure their ability to provide continuous service. The St. Clair County survey indicated that a three-day supply of food and water were the least items present in the number of disaster supply kits in businesses. If the facility provides or supports an essential service, continuity is lacking and the facility becomes dependent on the already overwhelmed system. If that system cannot support the facility, then the product that supports essential services is not provided, further disrupting capabilities.

Current planning guidance continues to focus on a single event driven in a vertical or stove-pipe process. As government attempts to implement a form of horizontal planning utilizing regional planning and asset sharing, it continues to ignore the tipping point of an incident. That tipping point is where the incident is widespread and overwhelms regional resources leaving individual communities on their own. The capability to meet the expectations of the community relies on the community itself.

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## VI. WHERE “HORIZONTAL” OR “NETWORK PLANNING CAN CLOSE THE GAP

After a major incident “lessons learned” are often identified in after action reports. The same lessons are identified incident after incident. If we don’t learn these lessons, people will get hurt because we failed to fix problems that hurt them the last time.

MIPT – *Lessons We Don’t Learn*<sup>98</sup>

Everyone has expectations of the essential services that are provided in normal everyday life or in dealing with a major event. In the world today it must be realized one cannot be protected from everything, and essential needs are a complexity of interdependencies that are not confined to one company, community or even state. Constant delivery of those services is expected and required to maintain a quality of life, which, if disrupted, causes issues and the potential for chaos in life.

“We have a tradition here in the United States and elsewhere in the world of only addressing issues concerning disaster preparedness and mitigation *after* we have experienced some calamity.”<sup>99</sup> A change in culture to a proactive prepared society through a collaborated, horizontally-based, public and private planning effort is required. “The world is becoming turbulent faster than organizations can become resilient.”<sup>100</sup> The nation can no longer operate on the premise of protection-oriented planning.

The current protection-oriented planning creates a point of failure. If the protection fails, everything fails. The World Trade Center supposedly met the protection factors. An unconventional adversary, however, was able to destroy the twin towers by

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<sup>98</sup> Amy K. Donahue and Robert V. Tuohy, *Lessons We Don’t Learn: A Study of the Lessons of Disasters, Why We Repeat Them, and How We Can Learn Them*. National Memorial Institute for the Prevention of Terrorism (March 8, 2007).

<sup>99</sup> Eric Holdeman, Director, King County Office of Emergency Management, Testimony to Senate Committee: Government Operations and Elections, January 11, 2005, 4.

<sup>100</sup> Gary Hamel and Lisa Valikanges, “The Quest for Resilience.” *Harvard Business Review*, September 2003, 1.

commandeering airplanes with box cutters. The attack on the twin towers demonstrated the cascading damages to critical infrastructure and essential services

You know protection is where we tend to focus in Government, but it is very, very clear that protection is not enough and in a world of imperfect [intelligence and] intelligence sharing, we have to look at the ability of critical infrastructure particularly cyber infrastructure to sustain damage and be quickly restored.<sup>101</sup>

Is a change to the current method of planning and expectations of delivering essential services needed? Insufficient planning, training, and interagency coordination are not problems that began and ended with Hurricane Katrina.<sup>102</sup> We can do better.

### **1. Proactive, Collaboration Environment**

It is essential in the twenty-first century that the public and private sector achieve the ability to manage emerging risks and anticipate the interactions between different types of risk in their strategies. Understanding the risk issue and creating the ability to recover quickly with minimal effect will enhance the continuity of services provided and lower the expectations of all involved parties. Creating a proactive environment that focuses on prevention and preparedness will enable the community to reduce the demands placed on essential services by unprepared citizens.

Preparedness, therefore, must emphasize the importance of flexibility and readiness to cope with an uncertain future. While we cannot predict the future to our satisfaction, we can build capabilities that prepare us for a broad range of challenges. Perhaps equally important, we can ensure that our preparedness plans, thinking, and “imagination” do not become so rigid that we cannot rapidly adapt to unforeseen challenges.<sup>103</sup> William Pelfrey states that collaboration has been called “*the most essential element in the cycle of preparedness.*”<sup>104</sup>

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<sup>101</sup> Jeffrey Gaynor, “Critical Infrastructure Resilience,” *Defence Management Journal* 34 (2006) 148.

<sup>102</sup> *The Federal Response to Hurricane Katrina Lessons Learned*, 50.

<sup>103</sup> *The Federal Response to Hurricane Katrina Lessons Learned*, 79.

<sup>104</sup> William V. Pelfrey, “The Cycle of Preparedness: Establishing a Framework to Prepare for Terrorist Threats,” *Journal of Homeland Security and Emergency Management* 2, no 1 (2005): 8.



When there is private-public collaboration, a network can be established. The basic definition of a network is a collection of nodes and links that connect pairs of nodes.<sup>105</sup> The essence is in collaboration; the links are the ways to connect the people, facilities, etc. (nodes) together. In building a network, trust is the key element in successful collaboration and partnerships.<sup>106</sup> It is essential that truth is provided in a way that leaves the right impression. Too often, government assures the public that they are prepared, only to become overwhelmed — as in the hurricane — and lose the confidence of the public. Utilizing horizontal or network planning broadens the integrity necessary by demonstrating harmony in the values and intent of the program.

The purpose or plan must be presented in a manner that clearly identifies the motive for implementation. Understanding the contents and expectations of the plan will assist in the acceptance and implementation. The strength of a horizontal-based partnership helps show that there is caring and truth without a hidden agenda, and it will build confidence and trust.

It is important to have the capabilities necessary for implementation. Even with a clear understanding and acceptance of a project, the inability to deliver will erode confidence and create a lack of commitment. Success through results is important to the process of trust. Results will strengthen credibility and support the integrity of the project and the organization.

Lacking national guidance, some public and private sectors are attempting forward planning efforts. The need to address homeland security and emergency preparedness in a collaborative horizontal system at the regional and local levels still has increasingly become more apparent in the past few years, for the simple reason that when disaster strikes, the major burden of response and recovery is on local authorities.<sup>107</sup> Top-

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<sup>105</sup> Ted G. Lewis, "Critical Infrastructure Protection in Homeland Security: Defending a Networked Nation," *Wiley Interscience*, New Jersey 2006, 78.

<sup>106</sup> John Arquilla, "It Takes a Network," *Los Angeles Times*, January 25, 2002.

<sup>107</sup> Hardenbrook, "The Need for a Policy Framework," 1.

down planning processes must be redesigned to allow for more bottom-up, locally based innovation and experimentation. In a diverse and rapidly changing state, a one-size-fits-all approach will not work.<sup>108</sup>

## **2. Regional Efforts**

In cases where state and local traditions do not encourage inter-jurisdictional collaboration, more prescriptive requirements regarding regional group members, decision-making processes, and planning can establish minimum thresholds for those activities and may provide an incentive for regional coordination.<sup>109</sup> This must include both public and private disciplines as communities comprise a natural network that involves many interdependencies.

Regional can be defined as *the extended spatial location of something*. This could include districts within a community, communities within a county, counties within a state or even states within a country. Regions offer the opportunity for stronger collaboration among disciplines and opportunity to become part of the solution. “You have to enable and empower people to make decisions independent of you. As I’ve learned, each person on a team is an extension of your leadership; if they feel empowered by you they will magnify your power to lead.”<sup>110</sup> It has been found that regional organizations that include representation from numerous disciplines and diverse stakeholders serve as structured forums to discuss public policy problems and agree on possible solutions.<sup>111</sup>

As local planning teams are created, organizations become involved in the process and begin to understand the roles and purpose of multi-discipline planning within a community. Although many essential services, such as electricity are provided from

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<sup>108</sup> Urban Land Institute, *Building Florida’s Future—State Strategies for Regional Cooperation* (Washington, DC, 2005), 7.

<sup>109</sup> House Committee on Government Reform, *Homeland Security: Effective Regional Coordination Can Enhance Emergency Preparedness*, 4.

<sup>110</sup> Ridge quote, <http://www.brainyquote.com/quotes/quotes/t/tomridge195742.html>, accessed September 20, 2007.

<sup>111</sup> Homeland Security, *Effective Regional Coordination Can Enhance Emergency Preparedness*, 7.

outside the community, a facility survey within the community may find very few if any facilities with backup power. By the community understanding as a whole may be without power for several days in adverse conditions could demonstrate the capability for portable generators that could be utilized by essential services such as food and sheltering.

### **3. Resilience**

As aging critical infrastructure is replaced, the ability to increase our resilience should be at the forefront. What is required is stronger importance placed on a proactive resilience-oriented planning process that addresses the continued operation and interdependencies in the occurrence of an event. A Council on Competitiveness study reports “that 25 percent of companies that experienced an IT outage of two to six days went bankrupt immediately. Ninety-three percent of companies that lost their data center for ten days or more filed for bankruptcy within a year.”<sup>112</sup> The private sector is a major participant in the network that provides essential services and serves as an economic resource for local communities. A single loss of a business could have devastating effects upon the expected delivery of essential services.

The successful adoption of a resilience policy in the United States will take time as recommendations of the Homeland Security Advisory Council’s Critical Infrastructure Task Force have not been implemented. Even though the idea of resiliency is gaining momentum, DHS and the federal government are moving far too slowly, paying rhetorical respect to resiliency in speeches but still mired in an outdated way of thinking.<sup>113</sup> The former DHS assistant secretary for strategic plans has stated that if critical infrastructure was “Homeland Security 101,” then resiliency is “Homeland Security 301.”<sup>114</sup>

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<sup>112</sup> Council on Competitiveness, *Transform – The Resilient Economy; Integrating Competitiveness and Security*, 2007, 6.

<sup>113</sup> Zack Phillips, “Snapping Back,” *Government Executive Magazine*, June 2007, 38.

<sup>114</sup> Ibid.

#### 4. Horizontal Planning

Even without a resiliency policy, the nation lacks a mandatory standard that addresses Continuity of Operations for state and local jurisdictions. Without this standard, local planning continues to be in disarray and lacking the public – private partnerships necessary. As all incidents are local, planning must begin at the local level. A community consists of many sectors, some of which often cross local, state, and even international boundaries. If the United States is to prosper in the twenty-first century, there must be a change in thinking.<sup>115</sup> The country cannot be part of an advanced society without being mindful of what made it advanced in the first place.<sup>116</sup> It would be wise to recall that what sealed the fate of the Roman Empire was not attacks from without but rot from within.<sup>117</sup>

Horizontal planning can be defined as sharing responsibility between industry, business, citizens and government to develop strategies that enable for the continued delivery of essential services that meets the expectations of the community. Through horizontal planning and collaboration efforts, communities can identify the need for implementing resilience and could utilize it to spur economic growth. Promoting the ability of a resilient community to deliver continued essential services in times of need could create more growth within the community. Increased growth provides for an increased tax base which generates additional revenues for the community.

As an example, several states and provinces have moved forward with international public-private planning partnership to address the critical planning issues that face their region. The delivery of essential services in a major event has been the focal point of their planning and exercise process. Since their inception, the Partnership

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<sup>115</sup> Flynn. *Edge of Disaster*, 168

<sup>116</sup> Ibid.

<sup>117</sup> Ibid.

for Regional Infrastructure Security<sup>118</sup> has conducted three major exercises call Blue Cascades to evaluate and improve their planning and capabilities.

The Blue Cascades III Exercise was an innovative critical infrastructure exercise that involved public and private sector partners. The scenario affected critical infrastructure and essential services throughout the area for an extended amount of time. One of the findings was that a strong public-private partnership is necessary in coordinating local preparedness plans.<sup>119</sup> This is critical to ensure the contingency plans of the private sector interact with the local government plan.

The multi-state exercise also found that “citizens in the affected areas would be on their own for days at a minimum, given the level of disruptions and outages and the fact that there would be competing need for federal resources.”<sup>120</sup> These results challenge the single incident – single jurisdiction planning guidance that most communities follow. This proactive approach was not the result of an incident occurring, but one of prevention and preparedness.

## **5. Addressing the Gap**

Closing the gap in public expectations and delivery of essential services requires the initiation of public and private collaboration driven by a horizontal or network based planning process. This form of planning allows the sharing and understanding of information that is utilized in determining community expectations. Local governmental structures provides for the horizontal planning and cooperation necessary for emergency preparedness, which is essential to the civil protection.

The utilization of horizontal planning provides the ability for government, business and the public to understand and create strategy to meet expectations. Applying

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<sup>118</sup> The Partnership for Regional Information Security - In October 2001, stakeholders from five states, two Canadian provinces and the Yukon Territory launched an initiative to develop a regional protection, preparedness and response plan for dealing with emergencies under the auspices of the Pacific Northwest Economic Region.

<sup>119</sup> Puget Sound Partnership for Regional Infrastructure Security, Infrastructure Interdependencies Tabletop Exercise Blue Cascades III: Managing Extreme Disasters, March 2006, 19.

<sup>120</sup> Ibid.

this planning model to the St. Clair County expectations of medical, and sheltering services is complex due to the deficiencies of the existing capabilities that exist due to the reliance upon interdependencies of many other services. But horizontal planning is intended to reduce the complexity by looking at the “whole network”, not just individual pieces and responsibilities.

Collaboration brings government which establishes regulations and standards together with the private sector which provides the majority of services. Understanding the responsibilities of and capabilities of the medical community enables the community to examine in-depth the ability to meet the expectations and the strategy necessary for change. Meeting the needs of medical surge will require the utilization of additional facilities, personnel and supplies at a minimum as well as the planned and collaborative efforts of multiple levels of government and the private sector.

The existing medical surge planning underway identifies alternative facilities and limited auxiliary support personnel to deliver additional capacity requirements but does not take into consideration the interdependencies required and delivered by all public and private organizations. The necessity of having medical planning consistent and a subset of the community plan is essential to the overall strategy rather than the current method of just meeting the criteria of two separate grant requirements.

The public expectations of shelter must also include food and water. All are reliant on interdependencies that cannot be planned for in isolation. The current planning assumes reliance on numerous agencies, departments and organizations without a method for cross discipline dialogue. Horizontal planning provides the collaboration process for St. Clair County to access and address the capability deficiencies. The failure to extend the current planning direction of single incident planning to one of major proportions, reliant on the entire community, will lead to a failure to meet expectations in time of need.

Analyzing the results of the assessment of current capabilities to regards to risk and community expectations will provide the necessary information to create a strategy that must include prevention and preparedness efforts to minimize and recover from

incidents. Every aspect of a community is essential to the delivery and utilization of essential services. Additionally, an educated prepared public reduces the burden on the limited essential services.

The strategy must include addressing the issue of the unprepared. Continuation of the current stove-pipe response oriented planning process must change. With many capabilities reliant upon interdependencies within and outside communities, the ability to strengthening capabilities to meet expectations should be based on community resilience. It will take the implementation of a horizontally based planning effort to identify and provide improved capabilities that will reduce the number of unprepared citizens requiring more demand for essential services.

Applying the concept of horizontal planning to the expectation of sheltering services would begin in the local jurisdiction. Local planning teams comprised of the public and private partners would conduct a capabilities assessment of each community. . As sheltering is just not a building, the planning team would then examine the interdependencies of essential services required to operate the building and the community's ability to provide those services. The reliance of essential services provided from outside a community can be proactively addressed locally. For example, a shelter relies on electricity that is not controlled locally however generator placement can be.

## **6. Conclusion**

The successful implementation of horizontal based planning will also provide for a more resilient community, which then further reduces the demand for essential services. The identification and understanding of the community expectations and the essential services required to meet them creates a positive common goal of being a "safe community." The concept of a safe community promotes economic growth, even further strengthening the ability to provide essential services meeting expectations.

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## VII. CONCLUSION

Historically, national policy change in the wake of a crisis or tragedy has been quick and decisive. Unfortunately, in the absence of crisis and/or tragedy, proactive policy change, even that based on independent, disciplined, and well-considered study of people of unique experience, proven success and intellect, and specifically designed to address certain all-hazard consequences, has been strongly resisted and thus been far more difficult to implement.<sup>121</sup>

Whether waiting for the national level or beginning locally, planning policy change must occur. Any strategy developed must address the tipping point at which the single event becomes widespread major events leaving communities without the capability to meet community expectations.

Understanding the expectations of an entire community becomes an important factor for proactive prevention and preparedness efforts prior to an incident occurring rather than the traditional respond and correct later. Utilizing public expectations compared with existing capabilities can be a critical analysis to further the reduction of risk and thereby reduce the gap between the two.

Protection is an important factor but everything cannot be protected against everything and when protection fails, it fails completely. The importance of resiliency as policy will allow for less of a disruption in the delivery of essential services within a community. Many essential services rely on a network of interdependencies that may not be delivered or controlled locally. The utilization of horizontal planning that includes every level of service provider enhances the ability to meet expectations and strengthens implementation of plans to reduce or eliminate gaps.

Studies indicate that citizens want to become involved through volunteerism. This is a tremendous untapped asset which if used correctly, could reduce the gap between expectations of essential services and the ability to meet them in a catastrophic event.

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<sup>121</sup> Jeffrey Gaynor, "The Resilience Vision," *Defence Management Journal* 26, March, 2007, 54.

When a community works together as a community in planning efforts, the collaboration and communication then allows for an understanding of the roles and responsibilities of everyone. The community working towards a common goal then brings forth trust and confidence in the system and an understanding of the expectations of that community.

This thesis identifies the need for change in the thought process which drives our planning to focus more on a proactive rather than a reactive approach. Change is difficult to implement as it forces the expansion of comfort zones. Change also requires learning and innovation to meet the changing environments.

The failure to realize communities are comprised of citizens, business, industry and government among others rather than numerous independent sectors must change. The entire community forms a tightly woven network of interdependencies that are reliant on community-wide collaborative efforts. This demands the trust in the responsibilities of every asset ensuring the continued functionality of community capabilities in a major event.

In St. Clair County, the expectations of the public are not being met and cannot be met in accordance to current federal guidance. This statement is based on the lack of a national mandated standard for continuity of operations for business and government and existing vertical-based planning guidance. Meeting expectations relies on services having interdependencies from other communities, states and nations. Local communities cannot plan for or assume those services will be available without this mandate.

Identifying expectations in a proactive planning approach does provide a new opportunity for honest, open discussions throughout the community to discuss the expectations and ability to meet them. Citizens do not embrace potential change quickly, and the current lack of trust and confidence in government establishes a credibility issue potentially limiting the effectiveness of discussion and the provision for improving capabilities.

The approach and ability to deliver the capabilities to meet expectations of both the public and private sectors are extremely difficult. Certain capabilities may never be attained due to budgetary or legislative issues. A collaborative effort will allow the

community to prioritize capabilities that reduce the gap between the public/private expectations and the community's ability to provide the necessary essential services.

If the current guidance is left unchanged, the challenge will lead to the inability of all parties to effectively prepare and respond to a large-scale event. The continued planning in isolation and lack of collaboration will only further impede the needed trust and confidence that is required for effective planning prior to an incident occurring. The bridging of these expectation gaps is critical to all members of the community.

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## **APPENDIX ONE**

A public confidence survey was conducted within St. Clair County, Michigan; it included questions regarding expectations of essential services. Survey respondents were randomly selected from the county jury pool. A target sample of 600 residents, representing the population of 135,000 residing in the emergency management program area, was taken. The percent of county population was identified for each community and utilized to ensure an equal sampling per jurisdiction.

The survey contained thirteen questions in which eleven were used as part of this thesis. The survey results provide an understanding of current public confidence and expectations of the government to provide essential services in a large-scale event.

The questions asked on the survey that were utilized by this survey are:

1. How concerned are you about the possibility that there will be a large-scale emergency in St. Clair County?
2. In general, how confident are you that County government is ready to respond effectively to a large scale catastrophe?
3. In general, how confident are you that local (city or village) government is ready to respond effectively to a large scale catastrophe?
4. In general, how confident are you that the local response system is ready to respond to a large scale catastrophe?
5. In general, how confident are you that the health care system is ready to respond to a large scale catastrophe?
6. In a large scale event, how soon do you expect emergency responders to be at your location providing assistance?
7. What do you consider the five most essential services that you expect county government to provide immediately after a large scale event?

8. What do you consider the five most essential services that you expect local government to provide immediately after a large scale event?
9. What do you consider the five most essential services that you expect the private sector (businesses) government to provide immediately after a large scale event?
10. Do you have a family preparedness plan that all families know about?
11. Which of the following does your workplace emergency preparedness kit include: 3 days supply of food and water; portable radio; first aid kit; flashlight; spare batteries.

## Question

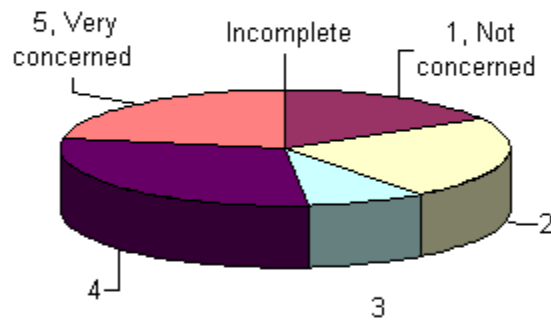
1. How concerned are you about the possibility that there will be a large-scale emergency in St. Clair County?

1 2 3 4 5

Not Concerned Very Concerned

Rank	Not Concerned				Very Concerned	Incomplete Answers
	1	2	3	4	5	
Number	21	29	11	37	28	0
Percentage	17%	23%	9%	29%	22%	0%

### Question One Answer Distribution



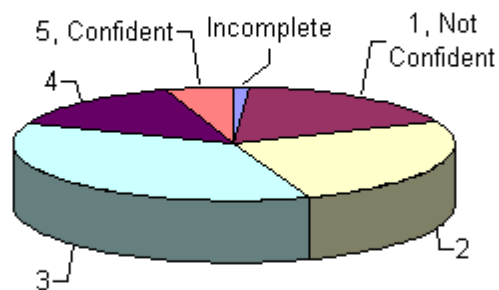
## Question

1. In general, how confident are you that County government is ready to respond effectively to a large-scale catastrophe?

[illegible]

Rank	Not Confident				Very Confident	Incomplete Answers
	1	2	3	4	5	
Number	31	47	66	25	9	2
Percentage	17%	26%	37%	14%	5%	1%

### Question Two Answer Distribution





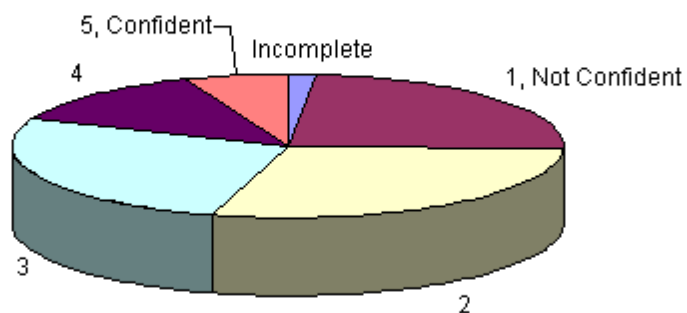
## Question

1. In general, how confident are you that local (city or village) government is ready to respond effectively to a large-scale catastrophe?

1 2 3 4 5  
Not Confident Very Confident

Rank	Not Confident				Very Confident	Incomplete Answers
	1	2	3	4	5	
Number	43	52	48	23	11	3
Percentage	24%	29%	27%	13%	6%	2%

### Question Three Answer Distribution



## Question

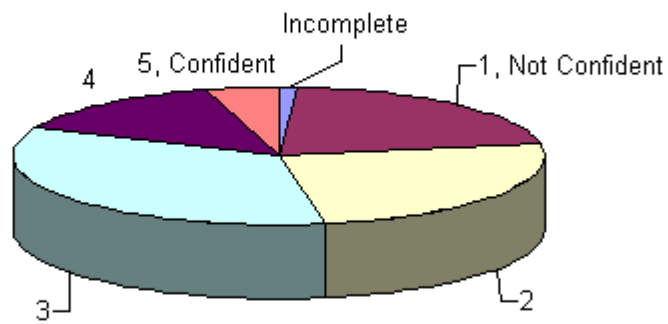
1. In general, how confident are you that the emergency response system is ready to respond effectively to a large-scale catastrophe?

1 2 3 4 5

Not Confident Very Confident

Rank	Not Confident				Very Confident	Incomplete Answers
	1	2	3	4	5	
Number	38	52	45	25	8	2
Percentage	22%	31%	26%	15%	5%	1%

### Question Four Answer Distribution



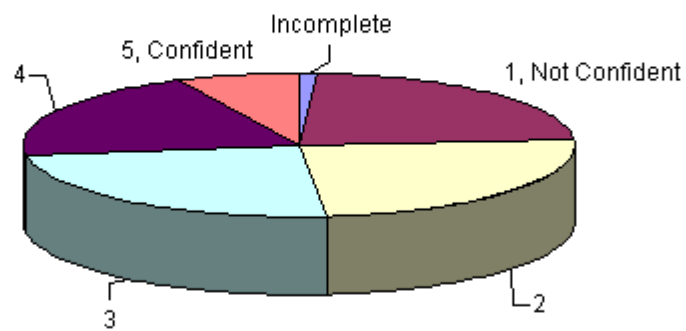
## Question

1. In general, how confident are you that the health care system is ready to respond effectively to a large-scale catastrophe?

1	2	3	4	5
Not Confident				Very Confident

Rank	Not Confident				Very Confident	Incomplete Answers
	1	2	3	4	5	
Number	41	44	44	36	13	2
Percentage	23%	24%	24%	20%	7%	1%

### Question Five Answer Distribution



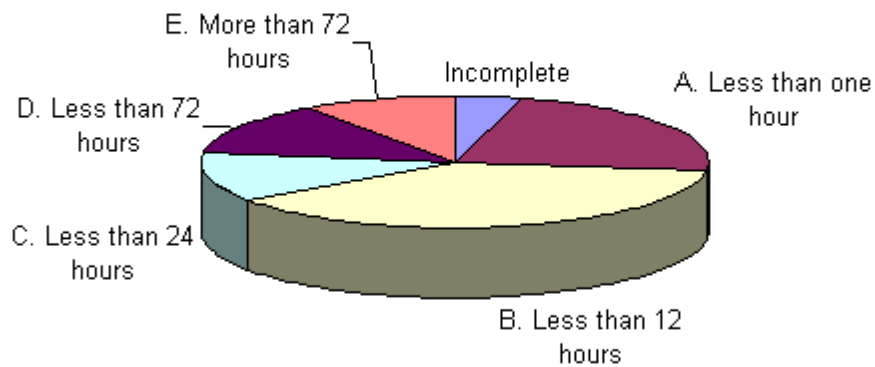
## Question

7. In a large-scale event, how soon do you expect emergency responders to be at your location providing assistance?

- a. Less than one hour
- b. Less than 12 hours
- c. Less than 24 hours
- d. Less than 72 hours
- e. More than 72 hours

Rank	< 1 Hour	< 12 Hours	<24 Hours	< 72 Hours	> 72 Hours	Incomplete Answers
Number	40	66	21	22	17	7
Percentage	23%	38%	12%	13%	10%	4%

**Question Seven Answer Distribution**



**Question 8** — What do you consider the five most essential services that you expect county government to provide immediately after a large scale event?

Top 10 Answers	Number	Percentage
Medical	122	17.2%
Shelter	100	14.1%
Communication	65	9.1%
Food	60	8.4%
Water	58	8.2%
Security	35	4.9%
Evacuation	27	3.8%
Power	25	3.5%
Transportation	23	3.2%
Police	22	3.0%
Incomplete	17	

**Question 9** — What do you consider the five most essential services that you expect local government to provide immediately after a large scale event?

Top 10 Answers	Number	Percentage
Medical	99	16.7%
Shelter	73	12.3%
Communication	62	10.5%
Food	51	8.6%
Water	49	8.3%
Security	29	4.9%
Fire	25	5.5%
Police	25	5.5%
Transportation	21	3.5%
Evacuation	20	3.4%
Incomplete	18	

**Question 10** — What do you consider the five most essential services that you expect the private sector (businesses) provide immediately after a large scale event?

Top 10 Answers	Number	Percentage
Food	52	12.0%
Shelter	44	10.1%
Water	36	8.3%
Medical	35	8.1%
None	27	6.2%
Support	24	5.5%
Supplies	24	5.5%
Communication	24	8.1%
Fuel	15	5.1%
Money	14	3.2%
Incomplete	20	

## Question

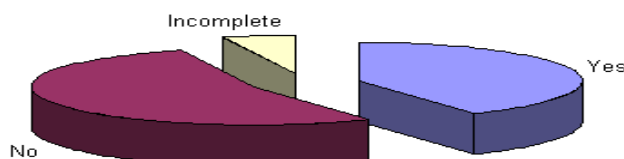
11. Do you have a family emergency preparedness plan that all family members know about? YES NO

If yes, which of the following does your family emergency preparedness kit include? (Circle all that apply)

Three days supply of food and water    Flashlight  
 Portable Radio    Spare batteries  
 First Aid Kit    Meeting place for family members in case  
 Emergency Phone numbers    of evacuation

Answer	Number	Percentage
Yes	71	41.3%
No	92	53.5%
Incomplete	9	5.2%

Question Eleven Answer Distribution



## Disaster Kit Items

Item	Have	Do Not Have	Percentage
3 Day Supply Food and Water	72	26	18.4%
Portable Radio	79	19	13.5%
First Aid Kit	85	13	9.2%
Emergency Phone Numbers	74	24	17.0%
Flashlight	93	5	3.5%
Spare Batteries	89	9	6.4%
Meeting Place for Family Members in case of evacuation	53	45	31.9%
Incomplete answers	0	77	

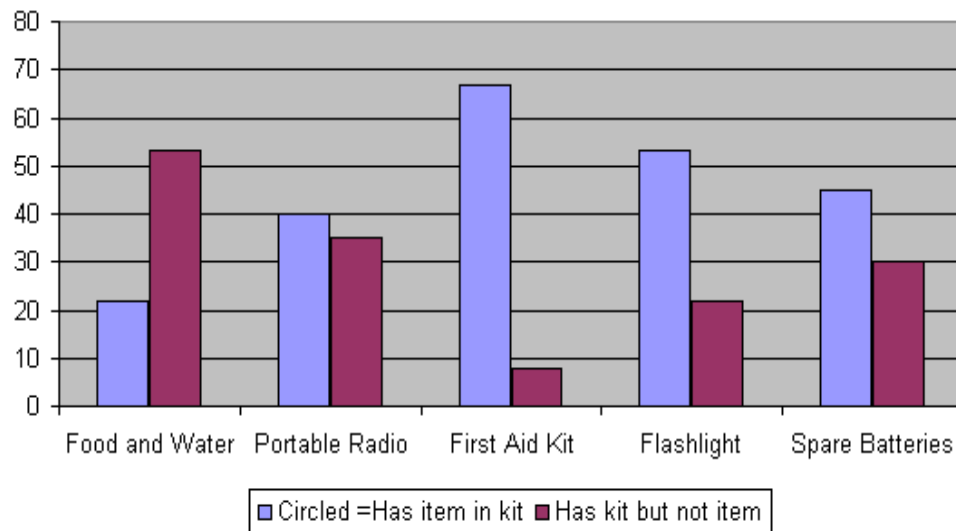
## Question

11. Which of the following does your workplace emergency preparedness kit include? (Circle all that apply)

Three days supply of food and water    Flashlight  
 Portable Radio    Spare batteries  
 First Aid Kit

Item	Has item in kit	Has kit but not item
Food and Water	22	53
Portable Radio	40	35
First Aid Kit	67	8
Flashlight	53	22
Spare Batteries	45	30
Incomplete, retired, does not work or does not have kit		100

### Question Thirteen: Items in Workplace Disaster Kit



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## APPENDIX TWO

The blackout of 2003 provided the opportunity for St. Clair County to redefine their planning process. Although the occurrence was in the warm summer months, the Homeland Security – Emergency Management Office studied the effects of the incident as if it had also occurred in cold winter months. The following chart compares the actual summertime occurrence to if it had occurred in winter.

EXPECTATION	SUMMER	WINTER
Medical	<p>Surge could occur due to heat related injuries.</p> <p>Routine medical care disrupted due to minimal facilities with backup power.</p> <p>Potential disruption of supply chain.</p>	<p>Surge could occur due to cold related injuries. Weather will slow response times.</p> <p>Routine medical care disrupted due to minimal facilities with backup power. Longer disruption may occur due to plumbing freezing and damage in unheated facilities.</p> <p>Potential disruption of supply chain.</p>
Shelter	<p>Sheltering from inclement weather available however summer allows the ability to function outside.</p> <p>Majority of shelters lack backup power capabilities.</p>	<p>Inside sheltering is essential due to cold weather.</p> <p>Majority of shelters lack backup power capabilities necessary to produce heat.</p>
Food	<p>Potential disruption of supply chain.</p> <p>Majority of shelters and food providers lack backup power capabilities.</p> <p>Limited availability of food due to spoilage issues.</p> <p>More ability to utilize portable grills for outside cooking.</p>	<p>Potential disruption of supply chain.</p> <p>Majority of shelters and food providers lack backup power capabilities.</p> <p>Cold weather may assist in food preservation.</p> <p>Less ability to utilize cooking facilities.</p>
Water	<p>Residential well systems will not operate without backup power.</p>	<p>Residential well systems will not operate without backup power.</p>

	Potential disruption of supply chain limiting bottled water and numerous other products and services.	Cold may expedite freezing of systems creating additional damage.  Potential disruption of supply chain limiting bottled water and numerous other products and services
Communication	<p>Proven disruption and overloading of cell phones and telephones.</p> <p>Ability to be outside allows contact and information flow between neighbors.</p> <p>People at facilities not having backup power must rely on battery powered radios.</p>	<p>Proven disruption and overloading of cell phones and telephones.</p> <p>People at facilities not having backup power must rely on battery powered radios.</p> <p>Cold weather reduces outside movement which affects local information flow.</p>

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